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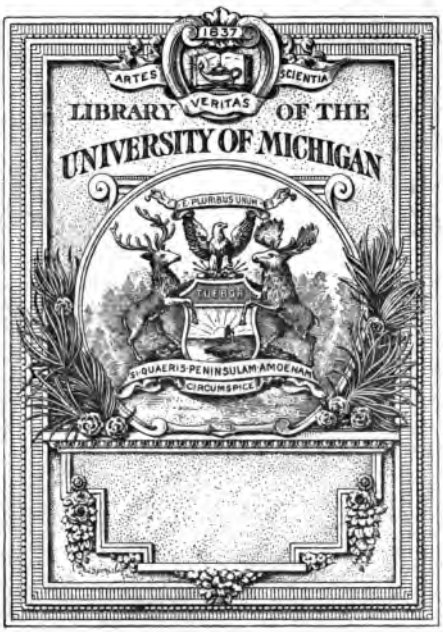
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WESTMINSTER HOSPITAL REPORTS.

EDITED BY

F. DE HAVILLAND HALL

AND

W. G. SPENCER.

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The Editors will be glad to receive for insertion in the next volume of the Hospital Reports short accounts of interesting and rare cases from old Westminster men. They suggest that, in order that these cases may not be forgotten, the notes should be sent in whilst the cases are still recent.

In Memoriam.

Sir RUTHERFORD ALCOCK, K.C.B., D.C.L.

Born 1809. Died 1897.

By GEORGE COWELL, F.R.C.S.,
Vice-President of the Hospital.

By the death of Sir Rutherford Alcock, who passed away in his 89th year on November 2nd, 1897, Westminster Hospital has lost a firm friend and its guiding spirit for many years. Since his retirement from the Diplomatic service in 1871, Sir Rutherford resided in London, and was a most regular attendant and a prominent figure in the Board Room of the Hospital, and in later years, as one of the vice-presidents, often occupied the chair. Since the date above mentioned, he has taken an active part in the many improvements that have been effected in the institution, and by his wise counsel and untiring exertions contributed in no small measure to their successful achievement. Most of the many valuable reports on such subjects as the nursing, admission of out-patients, structural alterations, and improved sanitation were written by him, and endorsed by the committees over which he so ably presided. The writer of this notice remembers the early controversies with reference to the nursing and the growing complaints which failed to receive attention until Sir Rutherford came on the scene. Hospital committees in those days were not so liberal as they are now, and all increase in the wages of the nurses was absolutely refused for many years. The result of this parsimony was that as the general rate of wages increased, the best nurses were enticed away by better pay elsewhere, and Westminster had gradually come to be nursed by a lower and lower class, and, indeed, 30 years ago it was not an unheard of thing to convict a nurse of herself consuming

brandy ordered for a patient. The medical staff were obliged to make a stand against this crying evil, and at last, with the assistance of Sir Rutherford, and in spite of the determined opposition of the then senior physician, Dr. Basham, a change was made, and the cost of the nursing was doubled at a bound. It is only fair to say that as soon as the success of the changes became evident, Dr. Basham, generous gentleman as he was, expressed at the Board his regret at his previous opposition, and his surprise at and recognition of the vast improvement that had taken place, both in the nurses and in the nursing.

Sir Rutherford Alcock was the son of an eminent medical practitioner in London. That he resembled his father is testified by the portrait of Thomas Alcock by Inskip, which has recently been presented by Lady Alcock to the Royal College of Surgeons, and which now adorns the College walls. He was born at Ealing on May 17th, 1809, and baptised the next day, as he was considered too delicate a baby to live. As he grew up he was, for the same reason, thought not to be strong enough for Westminster School, and was educated at a private school at Hexham, in Northumberland. At the age of 16 he went to Paris for two years, and obtained that intimate knowledge of the French language which was afterwards so invaluable to him. Here also he learned modelling, and subsequently executed an excellent series of anatomical models which still find, or did until quite lately, a place in the medical museum in Edinburgh.

Alcock's further medical education was obtained in London, and his hospital practice was attended at the Westminster Hospital, his first connection with that institution dating back to 70 years ago. Here he soon became an ally of Mr. Guthrie, and under his auspices also attended the practice of the Royal Westminster Ophthalmic Hospital.

The Secretary has kindly furnished me with the following abstract from the minutes of the weekly board of the Westminster Hospital of the 18th of February, 1829:—"Mr. Rutherford Alcock is introduced by Sir Anthony Carlisle to the Board as the House Surgeon, recommended by the surgeons for the ensuing year, and is approved by the Board. The list of surgical instruments signed by Mr. Smith as

delivered over by him is signed by Mr. Alcock as correct." On February 10th, 1830, there is a minute of the appointment of a Mr. Blakeney as Mr. Alcock's successor. These entries are interesting as showing that the house surgeoncy 68 years ago was held for twelve months, and that a legal qualification was not required, as is now the case. Mr. Alcock did not obtain the membership of the College of Surgeons until 1831. It is believed that subsequently to holding the house surgeoncy at Westminster he was appointed for six months to the house surgeoncy of the Royal Westminster Ophthalmic Hospital.

It was probably under the influence of Guthrie, who had himself been a distinguished army surgeon, that Alcock was led to seek employment and valuable experience in active service, and he obtained an appointment on the medical staff of the Marine Brigade of the British Auxiliary forces, which were enrolled in 1832 for service in the Peninsula to support Maria II. of Portugal against the Miguelists, and later to uphold Isabella II. in Spain against the Carlists, in accordance with the terms of the Quadruple Alliance of 1832-7. In this campaign Alcock gained considerable distinction, and for his courage and ability he was appointed aide-de-camp to General Sir de Lacy Evans, and subsequently received numerous decorations from the English, Spanish, and Portuguese Governments. He retired from the service in 1837 with the rank of Deputy Inspector-General of Hospitals, but was employed on the two mixed commissions which sat in London to settle the claims of the British naval and military auxiliary forces on the Spanish and Portuguese Governments.

Whilst at home after this campaign, Alcock worked at surgery. He twice obtained the Jacksonian Prize at the College of Surgeons—in 1839 for his dissertation on "The Nature, Symptoms, and Treatment of Concussion of the Brain, and the other forms of Cerebral Injury from External Violence," and in 1841 for a remarkable essay on "Injuries of the Thorax and Operations on its Parieties." In December, 1843, he was included in the list of London surgeons on whom the newly created Fellowship of the College of Surgeons was conferred. There is also in existence the letter

in which he offered himself for the post of Lecturer on Surgery in the Medical School that was being formed in connection with Westminster Hospital. Had he succeeded in this candidature Alcock's career might have been very different to what it was. There was, however, coming on a more potent cause for his early retirement from the active practice of surgery. From repeated exposure during the latter part of the Peninsular campaign, he was laid up for many months at San Sebastian with an acute attack of rheumatic fever. His hands suffered especially from the severe affection, and after his return home they gradually became more and more crippled, until at last it became evident that they ceased to be fitted for the precise manipulations of surgery.

This forced retirement from the profession he loved so well left Alcock free to accept in 1844, amongst the first batch of consuls appointed, the post of British Consul at Amoy, in China, one of the ports which the Treaty of Nanking of 1842 had thrown open to foreign commerce. This was a new field for his energies, and it has been well said that Alcock's medical training and educated powers of observation, as well as the experience in dealing with men which he had gained in the Peninsula, well fitted him, like that other great medical diplomatist, Sir John Kirk, to preside over and direct the opening up of new countries for the development of commerce. Amoy was soon exchanged for Foochow, and his success there led to his promotion to the post of Consul at Shanghai in 1846, and to the still more important post at Canton in 1858.

Alcock possessed a vigorous energy and a somewhat bellicose individuality, which served him in good stead in every post that he occupied, and well fitted him to deal with and overcome the turbulent elements which surrounded him. Whilst at Shanghai he was brought face to face with the Taeping Rebellion. This came to a head in 1853, and the European settlement was for some time in considerable danger. The energy and resource of Alcock was of great service in organising measures of defence, and though the Chinese city fell into the hands of the rebels, all attack on the European quarter ceased. During his residence at

Shanghai he originated the foreign inspectorship of Customs there, an institution which, hotly resisted at first by both natives and Europeans, subsequently exercised efficient control. After the termination of the rebellion he also reorganised the municipal government of the town, which had been originally put into form by his predecessor, Captain Balfour, and on account of which Shanghai had become known as the "Model Settlement."

Alcock's appointment to Canton in 1858 was speedily followed by his transfer to Japan in 1859. By the Treaty of Yedo, Lord Elgin secured for England important commercial privileges in that country, and Alcock was selected for the post of Consul-General. He was soon after transferred from the Consular to the Diplomatic service, and appointed Envoy Extraordinary and Minister Plenipotentiary, being the first English minister appointed to Japan. Here his Chinese experience was the reverse of serviceable to him, and he soon found that the position of the members of the Legation at Yedo had become most precarious owing to the fanatical dislike of the natives to Europeans; and in 1862, in consequence of an armed attack, the Embassy was removed to Yokohama, where the Japanese had first attempted to place it. With reference to the *émeute* which brought about this removal, Mr. William Anderson, F.R.C.S., who was with Alcock in Japan, tells us that the Government of Japan was in a bad state. Yedo was the seat of the Shôgun, a Generalissimo who was the last of a long line of usurpers who had relegated the true sovereign to the position of a mere legal puppet, and continued to hold the great provincial barons in a state of strongly-resented subjection. It was no place for the foreigner, beset as it was by rival factions, and subject to the capricious violence of mutinous malcontents, who hated above all things the "red-haired barbarians" of whom the peace-loving Briton was a type. It was not long before that a party of free lances, detached from their employment as *Samurai*, or militiamen, in the service of one or other of the feudal barons, perpetrated a murderous attack on the British Legation, but fortunately without any important result. A year later a party of English, riding on the high-road between Yedo and Kioto, came in the way of the

cortège of the Daimio of Satsuma, the most powerful of the subject barons, and were attacked, one of them being done to death in cowardly fashion. It was such attacks as these that Alcock had to meet, and his energy and readiness were worthy of all praise. After the murder of one of his party, Alcock rose to the occasion, and by his advice an indemnity of £100,000 was demanded from the Government of the Shôgun, and £20,000 from the Daimio of Satsuma. The former sum was obtained, but the Daimio, proving recalcitrant, his chief town, Kagoshima, was bombarded by the British ships till he was brought to a due sense of his responsibility. This sturdy reprisal was supported by the Government at home, and Mr. Alcock was gazetted K.C.B. in 1862 immediately afterwards.

Two years later, in 1864, in consequence of the closing of the Straits of Shimonosaki, and the hostile demonstrations against European vessels, it became necessary for a united English, French, and American squadron to bombard the Japanese forts. This step, which again was taken at the instigation of Sir Rutherford Alcock, gave the deathblow to Japanese hostility, as it resulted in the deposition of the Shôgun and the re-establishment of the Emperor as the head of the State. It was gratifying to Alcock that when his mission in Japan came to an end relations of a more friendly character had been established.

Amid all these stormy times and fanatical attacks Alcock was making a study of the language and people of Japan, and not unmindful of the beauties of the country and of the form of art peculiar to the Japanese. He may be said to have been the pioneer in the modern exploration of Japan. It has been pointed out by Sir Clement Markham, the President of the Royal Geographical Society, that in its journals are to be found valuable records of journeys undertaken by him in the interior of the country. In the volume for 1861 the journey described included an ascent of the great mountain Fusiyama, so familiar to all admirers of Japanese productions, and a visit to the sulphur baths of Atania; and in the volume for 1862 there is an interesting account of a journey from Nagasaki to Yedo, and a description of the commercial city of Osaki. So impressed was Alcock by the

beauty and variety of their art, that he vigorously pointed out to the Japanese the great advantage it would be to them to exhibit specimens of it in the great International Exhibition in London in 1862, and so keen was he that this idea should be successfully carried into effect that he himself chose the specimens to be exhibited, and even paid the greater part of the expense out of his own pocket. This was the first real introduction of Japanese wares into England, and as a result the taste for this graceful oriental art rapidly spread over the West, and it was largely due to Alcock that Japan now reaps the benefit of the successful introduction of their art products as articles of commerce into every country in Europe.

In 1865 Sir Rutherford Alcock was transferred to Pekin, and was succeeded in Japan by a former subordinate, Sir Harry Smith Parkes, whose name will also long be remembered in the East. As Minister Plenipotentiary in China Sir Rutherford became the chief superintendent of trade in that country, and had a wide but difficult field of administration. The most satisfactory part of his work was the fostering and developing the Customs department, which he himself had founded, as before mentioned, at Shanghai. This had grown into importance, and was soon sufficiently developed for transplantation to Pekin, and now that the Customs had been made responsible for the indemnities that the treaties had secured, the British and French Governments combined in putting on a proper footing what has become the organised institution of "The Imperial Maritime Customs." In this work Sir Rutherford was entirely successful. He remained at his post for nearly six years, and in 1871 retired, on a well-earned pension, from foreign service.

Sir Rutherford Alcock was twice married—first to the daughter of Charles Bacon, of London, who died during his Consulate at Shanghai, and secondly, in 1862, to the widow of Mr. Lowder, formerly chaplain at Shanghai.

During his service in the Peninsula and his residence in the East, Sir Rutherford was, as always, active with his pen. In 1838 he was the author of "Notes on the Medical History of the British Legion in Spain." In 1861 he published the

"Elements of Japanese Grammar." In 1863 a more ambitious work, "The Capital of the Tycoon," appeared, and in 1868, "Familiar Dialogues in Japanese." "The Capital of the Tycoon" is a standard work, and contains much valuable information about the condition and customs of Japan before its transformation in a European direction. His facile pen did not desert him on his return to England, for in 1876 he wrote a concluding chapter to the "Journal of Augustus Margary," and in 1868 he further utilised the knowledge he had gained in Japan by writing "Art and Art Industries of Japan," in which he highly extolled the Japanese artistic methods.

On Sir Rutherford's return to this country his active habits led him at once to throw himself into many philanthropic pursuits, of which the improvement of the public health seemed to occupy the first place. He immediately joined the Boards of his old hospitals, and at once found a congenial field for his activity. At the Westminster Hospital, from 1871 to within eighteen months of his death, he served on the Board with the greatest regularity, and gave unstintingly his wonderful energy, his ripe experience, and untiring devotion to its affairs. There were few committees during those years on which Sir Rutherford did not find a place, and no member of the Board was more completely conversant with the hospital business. For his able and constant services he was, in 1877, elected a Vice-President, and in that capacity he most usually occupied the chair of the committees as well as of the Board.

Sir Rutherford also took much interest in, and was chairman of, the committee of the Nursing Home, which was founded by the late Lady Augusta Stanley, and subsequently enlarged into the "Westminster Training Home for Nurses" as a fitting memorial of that august lady. In his capacity as chairman of the Home he came into collision with most of his colleagues of the Hospital Board, when the nursing department, in common with those of most of the London hospitals, made an effort for independence. The unanimous declaration of the medical staff was the obvious one that the nursing was an important part of the medical treatment, and could not be independent. Fortunately, after six months'

warfare, a *modus vivendi* was discovered and a new matron appointed, and doctors and nurses have worked harmoniously since.

Sir Rutherford also joined the committee of the Royal Westminster Ophthalmic Hospital, King William Street, Strand, and his zeal soon led to his appointment, in 1876, as chairman, in succession to the late Lord Josceline Percy, a post which he held for sixteen years and a half, much to the advantage of the institution. Residing in Westminster, he took immense interest and an active part in the work of the Western Dispensary, and in the Westminster Board of Guardians. He was also chairman of the Hospital for Women in Soho Square, and a member of the council of the neighbouring House of Charity for assisting those who have once been better off, a most useful institution not known nearly as widely as it deserves.

In 1876 the University of Oxford conferred upon him the honorary degree of D.C.L., and in the same year he was elected President of the Royal Geographical Society, a post which he held for two years. He served on the council of the Society for the long period of 20 years, and the President, Sir Clement Markham, in speaking of him a few days after his death, said: "Judicious, patient, and courteous, he was esteemed by us all, and his able advice helped us out of many a difficulty. The period of his presidency will always be remembered for the energy with which he advocated African exploration, the result of his efforts being represented by the memorable expeditions of Joseph Thomson."

Not only as President of the Geographical Society, but as chairman of the African Exploration Fund, he took part in the labours which resulted in the despatch of Mr. Keith Johnstone and Mr. Joseph Thomson to East Africa, and by bringing the latter into notice brought about important results in the direction of opening up that part of the African Continent.

In 1878 Sir Rutherford served as British Commissioner at the Paris Exhibition. In 1881 he sat on the Royal Commission appointed in that year to investigate the London Small-pox and Fever Hospitals, and in 1882 he presided over the Health Department of the Social Science Congress.

Another important service rendered by him to British enterprise abroad was as the first chairman of the British North Borneo Company, in the formation of which he had taken much interest.

This long list of active work and merited honours shows at once the breadth and versatility of Sir Rutherford Alcock's benevolent usefulness, his wide sympathies, and the deserving regard in which he was held. That he was held in high estimation and by the highest in the land is well shown by the fact that when the Queen determined to decorate some chosen deserving nurses in commemoration of her jubilee, attaching them to the old Royal Foundation of St. Katherine's Hospital, Her Majesty applied to Sir Rutherford Alcock to draw up the regulations and rules to guide the selection. This service Sir Rutherford was proud to undertake, only requesting permission to associate with himself for this purpose Sir James Paget and the Duke of Westminster. It is according to the rules drawn up by these three distinguished men that "The Queen's Jubilee Nurses" are from year to year appointed.

There only remains in conclusion to sum up the qualities which conduced to this very remarkable and highly successful career. There cannot be a doubt that Sir Rutherford Alcock possessed, in a high degree, all those characteristics which are essential to success in a public man—ability and energy, perseverance and the faculty of taking pains, courage and determination, pugnacity and a conspicuous courtesy and generosity, and last, but not least, a readiness to accept responsibility. It is the men who are thus endowed that are the real benefactors of the human race, and who as makers of history most advantageously serve their country. The combination of all these qualities is rare, and we must the more regret the departure from amongst us of one who possessed them all. The Medical School of Westminster will do itself honour if it permanently attaches the name of the most distinguished pupil of the Westminster Hospital to one of its scholarships.

STURGES LECTURE.

Delivered before the Guthrie Society, Westminster Hospital, November 11th, 1897.

By GEORGE COWELL, F.R.C.S.,
Vice-President and Consulting Surgeon of the Hospital.

My first duty, gentlemen, is to thank you for the honour that you have conferred upon me in inviting me this year to read the Sturges Lecture before the Guthrie Society. It is an honour and privilege that I thoroughly appreciate.

I have a lively recollection of the great interest that the late Dr. Sturges took in the founding of the Society. I remember, too, that he occupied the presidential chair during the first two years of its existence, and thus fostered its early infancy in a way that no other man could have done. He fixed upon the Society the impress of his great modesty of mind, his love of truth, his refinement of diction, his charity of judgment, his liberal-hearted toleration, and his deep devotion to scientific observation and research. All these qualities the Society inherits, as it were, from Sturges; and the Sturges Lecture, I take it, was founded as an expression of esteem and gratitude on the part of the members to keep alive the example he held up to us, to impress upon us again and again the motives and principles of action which he taught us, and to keep green the remembrance of the affection in which he was held by all who were proud to be his fellow-students in the art and science which he loved so well. His departure from amongst us is at present too recent for it to be necessary for me further to speak of him. In a few years' time the Sturges Lecturer will have the grateful task of using what eloquence he possesses to make Sturges known to succeeding members of this Society; men who have not had the advantage and happiness of his personal acquaintance, a possession which is a very real one to most of us who are present to-night.

Gentlemen, three years ago I had the honour of representing Westminster Hospital at the eleventh International Medical Congress at Rome, and this summer I again had the gratification of being appointed the delegate of Westminster Hospital at the twelfth International Medical Congress, which was held in Moscow in the month of August last. These International Medical Congresses are held triennially, and are always of great and varied interest. They permit of intercourse between physicians and surgeons of different nationalities, and so far curb our British insularity that they teach us to recognise that there are other and often better scientific methods than those that are familiar to us, and that in many of the hospitals abroad there are forms of construction and arrangement, and principles of government, which are in some respects better than our own, and from which we may obtain ideas which may often be applied with great advantage to the institutions at home in which we happen to be interested. It occurred to me, therefore, when I received your kind invitation to deliver the Sturges Lecture, that some account of my visit to the Moscow Congress would not fail to interest the Society, and I was glad to find that this subject was acceptable to the Committee.

A visit to the Russian cities and the Russian people adds a great charm of novelty to the dry details of the Congress itself. The hugeness of the country, the length and difficulties of the journey, the irritating passport and customs arrangements are all deterrents to the ordinary traveller; and when I tell you that I travelled over 4,000 miles of railways in the journey there and back, you will see that it is not a light expedition to undertake. It is true that those who enjoy the sea can go direct to St. Petersburg in excellent steamers, but my previous journeys by sea have not been in all respects satisfactory, and I regard them with mixed feelings. The route I adopted was that by rail *viâ* Berlin and Warsaw, leaving St. Petersburg to be visited on my return. The interest begins with the arrival of the train at the Russian frontier town of Alexandrowo at half-past one in the morning. No one was permitted to leave the train until the Government officials had collected the passports, which

it had been necessary for English people to have *viséed* by the Russian Consul in London before starting. The passports collected, we all left the train, carrying our small luggage with us. These packages we had to place on the platform side by side, and the passengers were so numerous that the line of packages extended the platform's length. The customs examination was radical and complete, and many travellers had some of their bags turned inside out upon the platform in the most unceremonious manner. Doubtless it was imagined that Congressists, as they were called, travelled with a choice selection of bombs concealed in their luggage. It had been rumoured that the luggage of the congressists would not be examined, so there was an element of surprise in the treatment we received. When our small packages were re-arranged, they were not allowed to be returned to the carriages, but we had still to wait the removal from the train of the registered luggage which was similarly examined in a room behind the platform. This also was done in a merciless manner. Ladies who showed the least reluctance to having the careful packing of their dresses disturbed had everything turned out upon the floor, and had to go down upon their knees, tired as they were, to entirely repack their boxes. Fortunately, two hours were allowed for the stoppage at this station, but the scene was a perfect pandemonium whilst it lasted. Besides these fiscal troubles, tickets had to be obtained, money changed, and luggage re-registered all without knowing one word of the Russian language. At last we successfully re-established ourselves in our carriages, and refreshed ourselves with Russian tea or "Tchai," served with a slice of lemon instead of milk. The crowded train was kept waiting long after the appointed time for starting, but at last we received back our passports from the hard-worked officials. Officialism is even more in evidence in Russia than it is in Germany, and soon after leaving the frontier we discovered, as indeed we expected, that the train had been taken over by Russian officers, one of whom soon made his rounds to inspect the tickets, accompanied by two armed attendants. We could hardly help wondering what would have happened had any of the passengers been without a ticket.

Warsaw was reached soon after 8 a.m., and we found our way to the only really good hotel in the town, and were fortunate enough, after long waiting, to secure a good room. The chief hotels in the large towns in Russia are very good. All others are according to English notions very bad. The best rooms are expensive, but food in Russia is cheap and wholesome; and as one is not obliged to take all one's meals in the hotels, and as payment for all meals is made at the time, there is every facility for visiting some of the best restaurants. This is in itself an opportunity which should not be neglected for studying the manners and customs of the people.

There is not much to interest one in Warsaw. Formerly the capital of the kingdom of Poland, it is now swallowed up in Russia, with a garrison of Russian soldiers and Russian police, and with the names of all its streets posted up in the Russian language as well as in Polish. The Vistula here is a fine broad river, and with a good iron bridge across it of considerable span. The best view of Warsaw is on the other side from the right bank of the river. On crossing the bridge for the sake of this view, on one of the two days that we spent at Warsaw, we passed a poor fellow with irons upon his wrists and ankles, and carrying his small bundle, a prisoner on his way to Siberia, with little chance of escape, for he was guarded by six police officers with drawn swords in their hands. I could not hear what his crimes had been, but he looked a determined fellow, and was taken probably for some political offence. The police appear to be always on the look-out for entertainment. We were told that they had seized upon two young congressists who were trying to find their way about Warsaw by means of a map. The official at the police station, however, understood their explanations, restored their map, apologised, and shook hands in the light and airy manner of one who has conferred a favour.

Two-thirds of the people in Warsaw are Jews, and it is curious to see them in crowds about the streets, the men in very long coats reaching to their heels, and many of the women in wigs. They inhabit the old parts of the town, and some of the streets in this old part are very picturesque and always visited. The Royal Castle near the bridge, some of

the churches, and the Jewish synagogue are well worth seeing.

The journey from Warsaw to Moscow was a very long one, and took 31 hours. We had two Warsaw doctors in our carriage, who could speak German and some Russian, and proved themselves agreeable as well as useful fellow-travellers. The journey was full of incident, but it would take too long to enter into details. Suffice it to say that Moscow was reached two hours and a half late, after a most tedious journey. We were, indeed, glad to find ourselves installed in a delightful room, which had been obtained for us by the British Consul in Moscow, in the Hotel Continental in a large open square in the very centre of the city. We congratulated ourselves that we had taken the precaution to time our arrival two days before the opening of the Congress, for we afterwards found that the train was later still the next day, and that many later arrivals found great difficulty in recovering their luggage and securing their rooms, and that even hours were spent by some in finding quarters, so great was the scramble in coping with the difficulties of language and the intricacies of the Russian railway system.

Early as we had arrived, we yet missed one function which was connected with the Congress, but not of it. It was the unveiling on the previous Sunday of a statue to Pirozoff, the great surgeon of the Russian army in the Crimea. It was originally intended that the statue should have been unveiled during the Congress and in the presence of its members, but the programme of the Congress was so filled up that a day could not be found, and it was unveiled in the presence only of the officials and doctors of Moscow. It is erected in front of one of the pavilions of the new Clinical Hospital, and is a noble presentment of almost the only great Russian surgeon with whose name we are familiar.

This will be a good place in my lecture in which to speak of this new Clinical Hospital, for it is now one of the features of Moscow. I confess that I went to Russia not at all expecting to find things up to date. I was agreeably surprised to find in Warsaw, Moscow, and St. Petersburg that in scientific matters the Russians are very much up to date. We found the hotels, streets, and shops lighted with electric light or

incandescent gas; we found trams, electric and otherwise, running with frequency and regularity in the principal thoroughfares; we found the crowded crossings capitally regulated by the police, often by mounted police, just as they are in our own metropolis; and last, but not least, and it is an improvement that we might well imitate, the butchers' shops, which are generally anything but sightly, removed from the crowded streets and relegated to their proper place —the markets. Hospitals, too, are not behind our own, and in this Clinical Hospital, which I desire to describe to you, the Russian Government puts this country to shame.

These cliniques are attached to the University of Moscow, and are built some three miles away from the centre but within the walls of the city, on an open, healthy space called the Plain of the Virgin (Diévitchié Polé). The buildings cover an area of some 50 acres, and almost form a village of themselves. They have been open some seven or eight years. There is a church, and the hospitals are built in separate blocks, some distance apart, each block containing a series of small wards constructed to contain 10, 8, 4, or 2 beds each, with a few isolation wards of one bed only. The total number of beds is nearly 700. The wards are heated by hot water coils arranged round the walls. There are plenty of windows for light and ventilation, and beds are arranged away from the walls in the centre, as it were, of the various sections of the room. Electric lighting is adopted throughout, and there is complete telephonic communication between the various buildings. In each of these hospitals, the smaller ones being set apart for different specialities, are every conceivable appliance, electrical, hygienic, analytical, and bacteriologic. The corridors are a great feature of these hospitals, and are broad and lofty with plenty of windows, and at once serve as promenades for both patients and nurses, and also as dining rooms, there being ingeniously arranged movable tables for this purpose. I saw one of the corridors set out for a meal in this way, not for patients, but for a few congressists, who had been put up in some of the rooms of the hospital and had just been breakfasting. I ought to say that these clinical hospitals are always closed to patients during the hot months of July and August.

In addition to these hospitals, there are, in separate blocks, museums, laboratories, and lecture theatres, in addition to the laboratories and perfect operation theatres of the various hospitals, in the situation and construction of all of which light has rightly been made an important consideration. The out-patient cliniques also are most commodious, and fitted up in a very complete manner. I certainly did not expect to find in Moscow one of the most perfect cliniques that exists, and I was curious to see how the University could have found the money to achieve so much. The elaborate description of these cliniques which was distributed amongst the members of the Congress tells us, however, that private munificence provided the greater part of the money expended, but that the Government, recognising the paramount importance of making the training and education of doctors for the service of the community as perfect and efficient as possible, supplemented these private gifts, and the result is a most perfect series of cliniques erected at the cost of upwards of £500,000. The Government also accentuated the enlightened view they take of this necessity by making an annual grant of £42,000 for the maintenance of these splendid buildings. All this munificence affords a great contrast to the niggardly way in which the Government and the public treat medical education in this country, where the medical schools are looked upon as private ventures, which must depend upon those who teach in them, and cannot possibly be of any interest or importance to the Government or to the community.

The opening of the Congress on Thursday afternoon, August 19th, in the Grand Imperial Theatre was a picturesque sight. The Grand Duke Sergius Alexandrovitch, the uncle of the Czar and Governor of Moscow, presided, and the 2,000 who gained admission out of the 7,000 members of the Congress had to attend in uniform or evening dress. There were speeches by the officials, and by one member from most of the countries represented, and therefore the proceedings were somewhat polyglot. After the formal business three very interesting addresses were given respectively by Professor Rudolf Virchow, of Berlin, on "The Part of the Blood Vessels in Inflammation"; by Dr. Lauder Brunton, of London, on "The Relation between Physiology, Pharmacology,

Pathology, and Practical Medicine"; and by Professor Lannelongue, of Paris, on "The Treatment of Surgical Tuberculoses in General."

All that was most interesting in the various sections of the Congress has already been published in the medical journals, but you will expect me to give you some idea of Moscow, which, next to Rome, is the most interesting city in Europe. The peasants call it "Our Holy Mother Moscow," for it possesses 9 cathedrals, 484 churches, and 22 monasteries, and is 24 miles in circumference. As nearly all these churches have domes or minarets or spires, overlaid with metal richly gilded or bronzed, or coloured with green or blue or red, the bright colours and the gold and bronze glisten in the sun. We had bright sun all the time that we were in Moscow, as it was intensely dry and hot, the temperature being every day 103° in the shade. These bright and coloured domes then, contrasting as they do with the white walls and buildings around them, give to the city a most eastern and picturesque appearance. Its walls and gates, and buildings and customs, are full of interest, and still bear the impress of the Tartar occupation of the city, notwithstanding the space of time that has elapsed and the great fire which destroyed so much of Moscow at the time of Napoleon's invasion of Russia in 1812. The central attraction of Moscow is its Kremlin or fortress, which is a city in itself, and is surrounded by high walls of brick, with numerous picturesque towers dating from the 14th and 15th centuries, many of them being the work of Italian architects. There are many gates to the Kremlin, all of which are more or less historically interesting or sacred. The principal entrance is called the Spasköi Vorsta, the Gate of the Redeemer, and was built at the end of the 15th century. It is of a red colour, with green spire and pinnacles. Over this gate is the famous picture or Icon of the Redeemer of Smolensk. It is one of the three holy pictures of Moscow, and it is visited by upwards of 10,000 persons every day. It has become famous from the legends that are told, and implicitly believed by the people, of the way in which it has always defended itself miraculously from foreign invaders. The Tartars thought its frame was of gold, and tried to remove it, but every ladder they used broke in the

middle. The French brought a cannon to destroy it, and the weapon burst in the attempt. At the time of the deliverance of Russia from the Poles, this picture of the Redeemer was carried before the victorious army. No one is allowed to pass through the gate and under the picture without removing his hat. An omission to uncover the head was anciently punishable with fifty compulsory prostrations. Strangers have been roughly handled if they ventured to break through this rule, and it is well to comply with it as the Czar himself does so. In fact, when the Czar and Czarina drive through this gate on their way to the Palace in the Kremlin, they alight from their carriage and kneel before the holy Icon. The only other gate that I will mention is the Nicholas Gate with the miraculous image of St. Nicholas of Mojaisk. Oaths were formerly administered to litigants before this image. This gate was partly destroyed by order of Napoleon, when, according to an inscription above it, it escaped with only a rent, which split the tower in the middle as far as the frame of the picture, but neither the glass of the picture nor even that of the lamp suspended before it, was injured. The Tower of Ivan the Great, the Velika, or Bell Tower, is the highest tower of the Kremlin, and from it a fine view of Moscow is obtained. It is said to have been built in the year 1600 by the Czar Boris Godunof. It is 325 feet in height, and contains 35 bells, the largest of which weighs 64 tons. All these bells are rung at Easter, followed by every bell in Moscow, producing, it is said, a wonderful effect. Russia is the country of bells, and the art of casting them was known in Russia in the 14th century. The largest bell in the world, the Tsar Kolokol, or Emperor of Bells, as it is called, lies on the ground near the foot of this tower with a large piece broken out of it. It is, including the ball and cross at the top of it, 26 feet high, its circumference is 67 feet, and its maximum thickness 2 feet. It was a happy thing for the inhabitants of Moscow that this bell could never be hung.

Amongst the churches in the Kremlin, there are three cathedrals, much smaller than we are accustomed to in the West, but teeming with interest. They are the Cathedral of the Assumption, where the Czars are crowned; the Cathedral

of the Annunciation, where they are baptised and married; and the Cathedral of St. Michael, where, in former times, they were buried, but since the time of Peter the Great they have been buried in the fortress church at St. Petersburg. There is much that is common to all these churches. They are of Italian architecture, a mixture of Byzantine and Lombard, much on the model of the cathedral at Vladimir. Each of them has five domes splendidly gilded, the central dome being the larger, and supported on four solid round pillars. Within the churches, the pillars and walls are covered with gold and frescoes. In the Church of the Assumption many of the Patriarchs of Moscow are buried. The screen or Iconastos, which is a blaze of gold and silver covering the sacred pictures, stretches across, separating the altar from the body of the church. This arrangement is peculiar to the Eastern Church. In this screen are three gates or entrances which are used by the clergy during the celebration of the Mass, but which are closed, and the veil drawn during the consecration of the elements. The music at Mass is entirely vocal and very beautiful. The epistle and gospel are curiously intoned by the Deacon, apparently chosen for the deep character of his voice, who begins on a very deep note and gradually rises chromatically at each clause, getting louder and louder until he finishes almost in a shriek. The effect is curious to Western ears. The liturgy in use is that of St. Chrysostom. There are no seats in a Russian church, and the people who crowd the churches remain standing for the whole service, which lasts generally for two or three hours, and indulge in numerous crossings and prostrations, some of them touching the ground with their foreheads. The sacred pictures on the Iconastos are much venerated, the faithful kissing them, and burning candles before them. Amongst these pictures in the Church of the Assumption are the four Evangelists and St. John the Baptist, and the still more sacred picture of the Holy Virgin of Vladimir, attributed to St. Luke. It came originally from Constantinople, and was brought to Moscow from Kief in 1155. In 1395 it is said to have exercised miraculous powers on the occasion of the flight of Tamerlane from Russia. In its gold covering and frame there are jewels that have been valued at £45,000, one

emerald alone being worth £10,000. In 1812, before Napoleon's invasion, it was carried by the Archbishop of Moscow to Vladimir with the other sacred pictures, and thus preserved. On the platform in the centre of the nave of this cathedral the Czars have been crowned from Ivan the Terrible to the present Czar, whose coronation was described in full in the papers less than two years ago. A grander sight could hardly be imagined than this ceremony. The Emperor is not a passive recipient as in Western countries, but is, as the late Dean Stanley tells us in his History of the Eastern Church, himself the principal figure in the whole scene; himself reciting aloud the confession of the Orthodox Faith; himself alone on his knees, amidst the assembled multitude, offering up the prayer of intercession for the Empire; himself placing his crown on his own head; himself entering through the sacred door of the innermost sanctuary, which, for this reason, receives the name of the Royal Gates, and taking from the altar the holy sacrament.

In the Cathedral of St. Michael, where the Czars are buried, the two most interesting tombs are those of the young Demitri, the son of Ivan the Terrible, who is supposed to have been murdered by Boris Godunof, who was subsequently elected Czar, and of Ivan the Terrible himself, who, in spite of his brutalities, lies buried next the altar. He it was who, in the 15th century, first took the title of Czar. He was noted for his cruelties, as well as for his pious zeal, and many of his most atrocious orders, Hare tells us, were given whilst he was on his knees in some act of devotion. Endless are the terrible stories told about him. It is said of him if, when walking out, he met any one whose appearance was displeasing, he would order his head to be struck off at once, and that he would let bears loose upon the crowds in the streets of Moscow for amusement. There is also a story told of an ambassador who had his hat nailed to his head because he did not remove it in his presence. He had seven wives, many of whom he poisoned, and it is said that he proposed to our Queen Elizabeth, who wisely declined the alliance. It is generally supposed that he died of grief for the death of his son Ivan, whom he had struck on the head with the same iron-pointed staff with which he is said

to have pinned to the ground the foot of the messenger who brought him the news of Prince Andrew Kowrbsky's having deserted to the Poles, leaning upon it whilst he read the letter.

In the Church of the Annunciation there is a beautiful pavement, given by a former Shah of Persia, of agate and jasper, upon which the marriage of the Czars are solemnized.

The Treasury contains precious relics which chronicle the history of the country. There are ancient armour and arms, Romanoff portraits, which include a picture of Catherine II. as a good-looking young man on horseback, in a blue coat, tight breeches, and a cocked hat. There are coronation chairs and coronation robes, the throne of Poland brought from Warsaw, and crowns and scepters innumerable. In other rooms there are superb collections of ancient gold and silver plate, including some handsome English plate presented to the Czars by our James I., Charles I., and James II.

Outside the Kremlin, not far from the Redeemer's Gate, there is a remarkable church, which is dedicated to St. Basil, and is a purely Tartar building. It has an octagon centre, mounted on a platform, with a spacious crypt beneath. It is surrounded by eight smaller octagons, all of them surmounted with cupolas of different colours and designs. The central octagon rises in a peculiar-shaped spire. It was built by Ivan the Terrible, who is said to have put out the eyes of the architect of this church when it was finished in order that he might not build another like it. Napoleon commanded that this church should be destroyed, but fortunately his orders were not carried out.

The largest church in Moscow is that of St. Saviour, which was erected to commemorate the deliverance of Russia from the French in 1812. The interior is well proportioned, and lined with the most costly marbles and modern frescoes. I was fortunate enough to see the Metropolitan of Moscow officiating in this church.

The fabulous sums spent by the Russians on their churches, and their reverence for their sacred pictures, impress one with the remarkable religious sentiment that pervades their life. Every railway station, every public

room, and even many a room in the hotels and houses, has its Icon, which receives a reverence from all who pass it. At frequented corners of the streets, and it must be remembered that the corner of a church or a room is the place of honour, there are small chapels erected containing a more or less ancient Icon, and here are always to be seen people, on their knees, in an attitude of devotion, and poor as many of them are, placing small alms in the boxes provided for that purpose. One of these small chapels is placed by the Sunday Gate, near the Kremlin, and contains one of the three most important sacred pictures of Moscow, that of the Iberian Mother. It was brought from Mount Athos in the time of the Czar Alexis. At all hours people are kneeling in this chapel, or on the steps in front of it, and no one passes by without doffing his hat in reverence. This picture has a carriage of its own, with four horses, and pays visits to weddings, to the sick, &c., for a gratuity of from 50 to 100 roubles (£6 to £11). The stipend of the Metropolitan of Moscow is mainly paid out of the alms presented to this picture.

Moscow is very rich in institutions for the care of the young, the deficient, and the infirm. Most of them are more or less on the lines of similar institutions in this country, but the Foundling Hospital in its questionable morality, its hugeness, and its principles of management, is peculiar to Russia. It was established 135 years ago, by Catherine II., and fostered by the Empress Marie. There have since been a long list of benefactors, whose portraits hang in the reception hall, and its income from State and other endowments amounts to nearly £100,000 annually, a large proportion of which sum is produced by the sale of playing cards, a Government monopoly. One wing contains a lying-in hospital, and it is said that nearly 2,000 women annually have recourse to its secret wards, and 200 to the few beds reserved for the very poor. The Foundling Hospital admits annually no less than 15,000 children, not secretly, but brought openly by their mothers or friends into a large hall, in which the only questions asked are whether the child has been baptised, and if so, by what name. The child is admitted and registered, and a number is attached round its neck and to

its cot, whilst a receipt, showing the same number, is given to the bearer of the child, who may claim it any time before it is 10 years old. The infant, after being washed and dressed in institution clothes, is handed to the woman who is first on the list of a number in waiting, and who becomes its foster-mother. These women are of the peasant class, and have not infrequently been the depositors of their own children at the hospital a few hours previously; but the majority, it is said, are mothers who have left their own children to be brought up by hand, tempted by the good fare and wages offered by the institution. Children who have not been baptised are christened the day after their admission, and receive the name of the saint presiding over the day in the Russian kalendar, and for a surname the name of the priest who officiates, with the addition of the "of" so familiar at the end of Russian names. At the end of four weeks, and having been vaccinated, the children, if strong and healthy, are sent, together with their nurses, to the villages to which the latter belong.

The nurses receive from 3s. 6d. to 7s. 6d. a month for the maintenance of the children, under the supervision of the doctor of the district. The mortality amongst these children is over 50 per cent. The parent establishment is well and regularly conducted, and the system is, medically speaking, perfect, there being distinct wards for almost every illness to which the children are liable, each fitted up in the newest and most approved manner. The rapidity with which the children are washed and dressed is remarkable. Particular attention is paid to the infants that have been prematurely born. They are placed in hollow copper bassinets, the sides and bottom of which are filled with hot water. Most of the boys are brought up to be soldiers or agricultural labourers. 150 of them are annually drafted to the Industrial School in Moscow, where they are taught various trades. Of the girls, some are received back at the hospital, and trained as nurses or midwives. Girls who marry before attaining their eighteenth year are provided with a wedding outfit. It appeared to me that the institution was open to much abuse, and that it was answerable for some of the immorality in Moscow and the surrounding

villages. There is a smaller but similar Foundling Hospital in St. Petersburg, so I suppose that these institutions meet a national want.

The principal monastery in Russia is the Troitsa. No visit to Russia would be complete without seeing it. It is about thirty miles from Moscow, and can now be reached by train. It was founded by St. Sergius in the 14th century, and is a fortress as well as a monastery, and successfully withstood for many months a determined siege by the Poles. Its walls are intact, and are more than two miles and a half in circumference, and they are twenty feet in thickness. Within the walls are two palaces, nine churches, an hospital, and a bazaar, besides, of course, the usual monastic buildings. The Troitsa Church, so called because it is dedicated to the Holy Trinity, contains the tomb of St. Sergius, composed of solid silver, weighing, we are told, 936 pounds. The pearls on the vestments and plate are said to be of more value than all the rest of the pearls in Europe. Not the least interesting items are the wooden chalice and paten, and the hair dress of the founder of the monastery. Another most interesting monastery that I visited was that of the New Jerusalem, about forty miles from Moscow. The chief object of interest is, of course, the principal church, which is an exact copy of the Church of the Holy Sepulchre at Jerusalem, just as it was, so far as the interior is concerned, in the time of Godfrey de Bouillon the Crusader.

At the end of our ten days in Moscow we attended a delightful garden party given to some of the members of the Congress by the Grand Duchess Serge. This lady is the daughter of the late Princess Alice, who married the Grand Duke of Hesse, and is therefore the grand-daughter of our Queen. She is, at the same time, the aunt by marriage of the Czar, and the elder sister of the Czarina. The Grand Duchess was most affable, and chatted in English, French, or German with her guests. We were received at a charming palace three miles out of Moscow, with a large garden extending to the banks of the River Moschra.

A night journey after this agreeable entertainment brought us to St. Petersburg, where we spent six days, and left it with regret to find our way home by Königsburg, Marienburg, Dantzic, and Berlin.

STURGES LECTURE.

Delivered before the Guthrie Society, November 10th, 1898.

By F. DE HAVILLAND HALL, M.D., F.R.C.P.

Mr. President and Gentlemen,—In the first place let me thank you for the honour you have done me in asking me to deliver the Sturges Lecture. It is one I much appreciate, and if my efforts to do justice to the occasion fall short of your expectations, you must give me the credit of having done my best.

In connection with the Guthrie Society two names will ever be associated—Mr. Guthrie, after whom the Society was named, and Dr. Sturges, the first president, and to commemorate whom this Lecture was founded.

Of Mr. Guthrie I can say nothing more than you will find for yourselves in the excellent sketch of his life by Mr. Macleod Yearsley, in the eighth volume of our Hospital Reports. As you will there see, he started life in His Majesty's service at the early age of 16, and became one of the most distinguished of army surgeons. On retiring from the service he joined the staff of this hospital, and the influential part he took in the starting of the Medical School is one of our most cherished traditions.

The loss we sustained by the death of Dr. Sturges is still too recent for us to properly estimate it. The sympathetic account of his life in Volume IX. of the Hospital Reports, by Dr. Donkin, will enable those who had not the advantage of his personal acquaintance to gain some idea of the kind of man he was. It is, of course, impossible to reproduce the dry humour and the felicitous manner with which he spoke, even on trivial occasions. He rendered inestimable service to this Society at its inception, and was an ideal president. I had the advantage of acting as his assistant-physician for

upwards of twelve years, and the fearlessness with which he would confess that he had not arrived at a diagnosis, and his hearty contempt for all superficial knowledge, had a bracing and stimulating effect on my medical education. May the spirit with which he took part in the work of the Guthrie Society be shared by his successors in office. This brief allusion to Dr. Sturges reminds me that, alas! his biographer is no longer on the acting staff of the Hospital. Dr. Donkin is too well known to all present for it to be necessary for me to say how great is the loss to the Hospital and School created by his resignation. I am sure that I am only re-echoing your thoughts in wishing him health and happiness in his new vocation.

After these introductory remarks, I will at once start on the subject of my lecture to-night, viz.—"A Consideration of the Changes in Medicine and the Medical Profession which have taken place in the last thirty years, *i.e.*, 1868-1898. A Retrospect."

My reason for taking this precise period is that it exactly corresponds with my medical life, assuming that my career as student may be compared to the period of intra-uterine existence, and that I came to life when I took my first qualification in November, 1868.

Consequently I have been a witness of all the great changes which have occurred in the interval, and though I cannot say, *Quorum magna pars fui*, at least I can say that I have been actively engaged in the practice of my profession the whole of the time, and have studied attentively the wondrous transformation in the science of medicine which has taken place during this period.

At the commencement of the period to which I refer, viz., in 1868, the custom in England, at all events, was to take the qualifications of the Royal College of Surgeons and the Apothecaries' Hall, though even then the licence of the Royal College of Physicians was beginning to replace that of the Hall. Accordingly I went up for the College of Surgeons in November, and the Society of Apothecaries in December of 1868. It must be remembered that up to June 30th, 1887, a person could be registered under the Medical Acts on passing the final examination at any of the recog-

nised licensing bodies, and could act as a general practitioner, although he had been examined in medicine and midwifery only as at the Hall, or in surgery as at the Royal College of Surgeons. The month I was examined at the College (November, 1868) witnessed the first examination in medicine—prior to that time candidates were only examined in surgery; the midwifery examination was instituted some years later. Candidates were admitted for examination after attendance at a recognised hospital during three winter and two summer sessions, so that though I only entered at St. Bartholomew's in October, 1865, I was allowed to present myself in November, 1868, at the College. And what a difference in the examination then to what it is now! Simply a written paper and a brief oral examination, together with spotting a few specimens, nothing whatever to test a man's practical knowledge. The medical part of the examination was, if possible, a still greater farce. It consisted merely of a paper containing four questions, without any oral or practical examination.

The examination at the Apothecaries' Hall, which I passed in December, 1868, seemed to me to be more complete in the subjects demanded. There was a written examination, followed by a quarter of an hour's *viva voce* examination at four different tables on medicine, pathology, forensic medicine, and midwifery, respectively. But how different from the present elaborate system of examination by the same body, which consists of three hours written examination in medicine, pathology, and therapeutics; two hours in midwifery; an hour and a half for forensic medicine and toxicology; the practical and *viva voce* examination on these subjects extends over the period of two hours and three-quarters for every candidate. This, of course, does not include the very thorough examination in surgery. The candidates of the present day cannot certainly complain that they do not receive sufficient attention when they present themselves for examination.

One thing that strikes me very forcibly is the improvement in the average medical student in the last thirty years. Charles Dickens' account of Bob Sawyer was, of course, a caricature, but it nevertheless contained a con-

siderable proportion of truth at the time it was written. Now the medical student genus as depicted in the pages of the immortal Pickwick is extinct. The general upward movement of improvement has affected all classes, and will account for some of the alteration for the better; but I think there have been special conditions at work which have influenced the medical student beneficially. In the first rank I would place those glorious advances in knowledge by which the practice of medicine is being gradually elevated from mere empiricism almost to the level of an exact science. The medical student now finds so much to engage his attention and interest his mind that he is becoming more and more indisposed for indulgence in the grosser and more sensual pleasures. The great increase in the scientific interest of medicine has attracted into its ranks students of a superior class of intellect, and these have acted as leaven to the general mass of students. The increase in the number of examinations, and their increasing stringency, have compelled students to work more regularly, and has allowed less time for dissipation. The greater intimacy between the members of the staff and the students has also had a beneficial effect on both teachers and students. The increase in the number of appointments other than those connected with general practice, such as the Medical Officers of Health and Medical Superintendents of the various fever hospitals and poor law infirmaries, have also attracted men of a superior stamp, who probably would not have entered the profession if no other opening than general practice were available to them.

Another great factor for good has been the starting of football and athletic clubs. It is impossible to estimate too highly the good effect on young men of meeting together in contests of friendly rivalry. When I was a student the billiard-room set was notorious for the intemperance and general looseness of behaviour of its members; it is unfortunate that so beneficial a game should have acquired so unenviable a distinction. But no such complaint can be laid against out-door games; the only fear is lest they should absorb too much time. Of late years the bicycle has wrought quite a revolution in all ages and in all ranks of

society, and the medical student, to his great benefit, has taken full advantage of the opportunities it affords of healthy exercise.

In my student days the Highbury Barn was in full swing, and one heard of the nocturnal orgies which went on there. I may be mistaken, but I do not think that there is anything of the same kind in existence at the present time. I therefore maintain that, as compared with thirty years ago, the medical student of the present day is vastly improved. He is better dressed, better conducted, and better educated than were his predecessors. I can't help thinking that, though at times one hears of many complaints as to the poverty and hard life of the average medical practitioner, on the whole the position of the recently-qualified medical man is better than it was when I emerged upon the scene as a full-blown M.R.C.S. He certainly has many more openings for his medical skill, and two pieces of legislation coming into force this year will undoubtedly improve his position. I refer to the action taken by the General Medical Council in stopping unqualified assistants, and to the new army warrant. The latter has conceded all that the medical profession demanded, and the Army Medical Service now offers an honourable career to its officers on favourable terms.

From the students of the hospital to the nurses is an easy transition. But if the student of the present day compares favourably with those of a past generation, what shall we say of the nurses? With respect to the students, it is merely a difference of degree, but comparing nurses of the present day with nurses thirty years ago, one is dealing with a difference in kind. Just as Charles Dickens drew a caricature of the medical student, so he did of the nurse of his day, and in Sairey Gamp and Mrs. Harris he has put on record a masterly sketch of the ill-educated, gossipy, bibulous nurse of fifty years ago. Things were beginning to improve when I commenced clerking in the medical wards, but the nurses of that period were apparently drawn from the same social stratum as the hospital scrubbers of the present day, and it was not an uncommon thing for a nurse to be dismissed for drunkenness. You who have worked in the wards with the nurses trained on the present system can hardly

realise the difference in the way in which the work is carried on now to what it was formerly. Even when I was House Physician in 1872 I had to take all the temperatures myself, and it never entered my head that a nurse would be capable of taking and recording temperatures. This may be taken as a typical instance of the advance in nursing. The pleasing costume, scrupulously clean and neat, of the nurses of to-day is in marked contrast to the dark stuff, and often untidy, dresses of the past generation of nurses.

It is difficult to realise the enormous improvement which has taken place in the structural arrangements of our hospital and school in the last thirty years. A glance at the alterations which have been carried out here will serve to indicate the changes which have occurred in other hospitals. One of the most important of the alterations was the erection of the turrets for lavatory accommodation. The substitution of the parquet floors, polished with turpentine and beeswax, was a marked change for the better from the old boards, with gaping seams harbouring all kinds of germs, which had to be kept clean by washing. How I used to pity the unfortunate patients on cleaning days—the atmosphere saturated with moisture from the damp boards. And then the improvement in the operating theatre! Ours is at present as perfect a piece of work as it is possible to wish for. When I first entered the operating theatre of this hospital the surgeons operated in old coats, which, like England's flag, had braved the battle and the breeze of many a bloody operation. Is it to be wondered that septic diseases were rife in those days? The removal of the school from the basement, and the building of the out-patient department, signalised the termination of many years hard work at improvement.

When we come to survey the progress medicine has made since the year 1868, one may indeed make use of Dominie Sampson's favourite expression, "Prodigious!" I shall best indicate the enormous strides that medicine has made if I select some of the principal diseases, and contrast our present knowledge with what was known about them thirty years ago.

The text-book which I read for medical examinations

was "The Science and Practice of Medicine," by Dr. Aitken. On referring to the edition (the third) which I used, it will be found that very many diseases, which are now common property, are not even mentioned by name.

The whole idea of the zymotic group of diseases has been completely revolutionised since the discovery of micro-organisms as their cause. This was first done in the case of relapsing fever in the year 1873, when Obermeier, assistant to Professor Virchow, demonstrated the presence of spirilla in the blood of patients suffering from that disease. The possibility of the specific fevers being dependent on micro-organisms had been in the air, but this was the first direct proof of the connection. Of the far-reaching consequences of this discovery it is impossible to predicate. The example of the wonderful effect of anti-toxin in diphtheria justifies the hope that eventually we may be able to combat the other zymotic diseases with equal and perhaps even greater success. Surely Dr. Farr must have had a prevision of what lay hid in the womb of the future when he applied the term zymotic to the class of diseases in which the fevers are included. Aitken, however, took care to show that he had no glimpse into the future, as he said, "The term zymotic is not to be understood as implying the hypothesis that these diseases are fermentations which the derivation of the term would lead one to believe." Now that, thanks to the researches of Pasteur, we fully understand what is meant by fermentation, it is clear that no more appropriate term could have been applied to the specific fevers. A germ is introduced from without, and entering the system it there reproduces itself and multiplies until at last the whole lump is leavened. What a wonderful future is opened up to us in the serum treatment of disease. It is not much more than five years ago since the diphtheria anti-toxin was introduced, and already it has brought about a great diminution in the death-rate from this disease, especially in cases needing tracheotomy. When I commenced the practice of the profession there was no disease which I so dreaded in my patients, but now, confident in the curative effect of the anti-toxin, I approach a case with the expectation of a speedy recovery. Then, again, the recognition of the

bacterial origin of the specific fevers has greatly assisted in diagnosis. The detection of the Klebs-Loeffler bacillus tells us that what is apparently only a simple tonsillitis is in reality a case of diphtheria, and therefore capable of infecting others. And not only is the bacteriological test useful for diagnosis at the commencement, but also during convalescence, as a bacteriological examination of the secretion from the throat enables us to state with certainty when the patient is free from infection. Again, the curious property which the serum of patients suffering from enteric fever has of causing Eberth's bacilli in a broth culture to clump together—Widal's reaction—is of great service in establishing the diagnosis in doubtful cases of fever. In respect to one of the zymotic diseases there has been a lamentable declension from the right way, not, however, on the part of the medical profession, but on the part of the Government, who were afraid to act up to their convictions, and weakly gave in to the noisy clamour of a small minority. I mean, of course, the practical repeal of the Compulsory Vaccination Act. Unfortunately those who sow the wind will, for the most part, escape the penalty, leaving the whirlwind to be reaped by the rising generation. It is possible, however, that the neglect of Jenner's great discovery may lead to such appalling results that not only will vaccination be again made compulsory, but also re-vaccination. In the meantime all sensible people have it in their power to protect themselves and their children.

The discovery of the plasmodium malariæ has cleared up many of the difficulties hitherto associated with the malarial fevers.

The original idea, as the name implies—Mal' aria, from *mala aria*, bad air, in Italian—was that malaria was "presumed to exist as a gaseous fluid in the atmosphere of certain regions"—this is the language of Aitken. Some of the most beautiful microscopical and bacteriological work of the present day is that which has been carried on in reference to the examination of the blood in ague, and the detection therein of the plasmodium malariæ, and the recognition of the varying phases through which the parasite passes. The discovery of the parasitic origin of malaria has confirmed

what formerly we only knew empirically, viz., the power of quinine in ague. Osler says emphatically, "The disappearance of the symptoms of malaria after the use of quinine is due directly to the parasiticidal action of the drug." The history of the introduction of cinchona is one of the romances of medicine. It would, however, be too long a digression for me to enter upon it on this occasion.

In regard to rheumatism, we are precisely in the position in which we were in respect to malaria before 1880, when Laveran discovered the plasmodium malariæ. "Although no satisfactory evidence has as yet been procured of the constant presence of any single specific micro-organism, yet in not a few of its features the whole course of rheumatic fever* resembles an infective disease." This might have been written of malaria twenty years ago. And the similarity between the two diseases is accentuated by the interesting fact that "Dr. Maclagan was led to give salicine by his belief in the malarial nature of rheumatism, on the idea that just as the cinchona is found growing in aguish districts, so the willow, which grows in rheumatic districts, might perhaps yield an antidote to the disease."†

In the treatment of no other disease do I see that greater advance has been made than in rheumatic fever. Aitken gives the following account of the disease as it presented itself to him in the days before the introduction of the salicine plan of treatment:—"At the height of the disorder it is difficult to conceive a more complete picture of helplessness and suffering than that to which the patient is reduced. A strong and powerful man, generally unused to disease, lies on his back motionless, unable to raise his hand to wipe the drops which flow fast from his brow in the paroxysms of pain, or the mucus which irritates his nostril. Indeed, he is so helpless that he is not only obliged to be fed, but to be assisted at every operation of nature. The sweat in which he lies drenched seems to bring him no relief; his position admits of no change. If he sleeps, his sleep is short, and he wakes up with an exacerbation of suffering which renders him fretful, impatient, and dis-

* Dr. Church, Allbutt's System of Medicine, vol. iii, p. 3.

† A Treatise on Rheumatism, by A. E. Garrod. p. 209.

contented with all around him."* This is a true and by no means an exaggerated account of the miserable condition of patients suffering from rheumatic fever during the early years of the period to which I am referring. Aitken goes on to say: "The duration of acute rheumatism is very various; in some cases both the fever and local pains are gone in three or four days, but in the majority of instances they continue till about the tenth to the fourteenth day, when the fever disappears, and the pains begin to subside."

In these days the general plan of treatment was by means of alkalies, and Dr. Basham, who was then the senior physician at Westminster, was a strong advocate of this method. He also employed locally a saturated solution of nitrate of potassium with spongio-piline. In spite of these remedies, however, the patients had a miserable time of it, and only those who were in practice before the introduction of the salicylate line of treatment can appreciate with how different a feeling we now approach a case of acute rheumatism. The rule is that within two, three, or, at most, five days the temperature comes down to normal, and simultaneously the pains in the joints disappear. In one respect, however, we have not gained very much by the salicylate treatment, and that is the duration of time patients are in hospital. They remain much about the same time as formerly, but only compare the difference in the comfort of the patients now and then!

When we come to consider the subject of tuberculosis, it will be found that our ideas on this disease have had to be modified very considerably since Koch's discovery of the tubercle bacillus. We now see clearly, what was formerly only indistinctly perceived, that the processes involved in pulmonary tuberculosis own a common origin, and that the variation in the rate of progress and the clinical features of the disease are due to the varying conditions of the patient's body and his environment; the seed is always the same, it is only the soil which varies. The recognition of the parasitic origin of tuberculosis has led to steps being taken to check the spread of the disease, and already the mortality is only about a third of what it was. The greatest improve-

* Vol. ii., p. 22.

ment that has taken place in the treatment of consumption is the importance which is now attached to the open-air treatment. Parkes, who was much in advance of his time, wrote: "The best climates for phthisis are, perhaps, not necessarily the equable ones, but those which permit the greatest number of hours to be passed out of the house."* But it is practically only in the last twenty years that patients have been sent to high altitudes; when I was a student a temperate and mild climate, with a temperature of about 60° Fahr., was considered to be essential. Madeira was then the beau-ideal of a place for consumptives. Now, as you know, we send patients to Davos Platz and other alpine resorts and start them skating and tobogganing. The results which have been achieved by the modern system of treatment have been most satisfactory, and now that the value of the open-air system is being generally recognised, we shall not only be able to treat cases earlier than formerly, but in families with a phthisical inheritance the enforcement of an out-door life will prevent the disease.

The discovery of the bacterial origin of consumption has led to a reconsideration of the doctrine of heredity in this disease. At one time the occurrence of a case of consumption in a family with a history of phthisis seemed almost to paralyse the energies of those in attendance, and no wonder that, in the absence of any precautionary measures, the disease spread to other members of the family. Now, although I would not altogether deny that a predisposition to the disease is transmitted from parents to their offspring, still I would lay greater stress on consumption being more the result of the patient's environment than of his descent. Accordingly, we are inspired with fresh hope of stamping out the disease. Careful measures are taken to disinfect and destroy the sputum of phthisical patients, and they are strictly enjoined not to expectorate except into suitable receptacles, and on no account to use their pocket handkerchiefs for this purpose. Furthermore, by preventing consumptive patients sleeping in the same room with the healthy and by disinfecting rooms used by consumptives, we may confidently expect to limit the spread of this fell disease.

* Aitken's Medicine, vol. ii., p. 237.

In diseases of the nervous system the last thirty years have been an epoch-making period. Thanks to the labours of Hitzig, Ferrier, and others, the whole subject of cerebral localisation has been worked out with such success that it is possible, in many instances, for the physician to indicate the position of a lesion, and for the surgeon to cut down on it. What a change has come over our ideas in regard to nervous diseases since the recognition of the occurrence of sclerosis in the brain and spinal cord. The pathology of diseases of the nervous system was as much an unexplored region as was Central Africa, and they have both been opened up in about the same space of time. To point out the advances made in the last thirty years in the diagnosis and treatment of diseases of the nervous system would necessitate writing a lengthy essay, as the whole subject was in quite a chaotic condition at the commencement of this period.

In heart disease one of the greatest advances which has been made is the recognition of the importance of the state of the heart-muscle in prognosis. When the stethoscope was first introduced the attention of the observer was more or less concentrated on the detection of cardiac murmurs, and the condition of the heart wall was almost entirely disregarded. At the present day the exact size of the heart is carefully mapped out on the chest, and the position of the apex beat determined. When this is done, the question of the existence of hypertrophy or dilatation is studied, and the prognosis of the case depends much more upon the condition of the cardiac wall than on the particular murmur. The action of drugs in heart disease is also much better understood. When I qualified, the idea of giving morphine subcutaneously for the relief of insomnia would have been altogether scouted. Aitken, for example, quotes the following paragraph from Dr. Hyde Salter with approval. In speaking of the sleeplessness of chronic valvular disease, he says: "To give sedatives in such a case would be the refinement of cruelty. What keeps this poor man awake is not a want of tendency to sleep, but a condition that makes sleep impossible. Relieve him of his orthopnœa and he would be asleep in ten seconds, and so dead asleep that it would take a great deal to rouse him, like a half-asphyxiated child

on whom tracheotomy had just been performed. His great struggle, as it is, is the struggle between sleep and life; with opium thrown into the scale of sleep the struggle for life would only be so much the harder. In one way, and only in one way, would opium give him ease: the narcotic of opium, added to the narcotic of the carbonic acid already circulating in his veins, might accelerate by some hours, or even days, the final coma, and make him sooner sleep the sleep of death. But the euthanasia that is purchased by anticipating the natural process of death comes very near to homicide, and is an alternative that few would adopt."* Some of you have doubtless seen in the wards of this hospital the beneficial effect resulting from a small subcutaneous injection of morphine, say $\frac{1}{10}$ to $\frac{1}{6}$, in the insomnia restlessness of heart disease. In not a few cases the sleep which is procured by this means seems to be the turning point in the patient's hitherto downward progress. He awakes refreshed, the irritable, irregular heart has profited by the unwonted quiet of the patient, and the increased force of the ventricular systole is shown by an augmentation in the amount of urine followed by a diminution in the anasarca. In suitable cases I have seen nothing but good in morphine thus administered, and I regard this method of treatment as one of the great advances in the therapeutics of heart disease in the last thirty years.

In this connection we should not forget the immense boon which the introduction of nitrite of amyl, nitro-glycerine, and allied compounds has conferred on patients suffering from angina pectoris and similar complaints. The use of these drugs in medicine is the direct outcome of that scientific spirit of investigation and experiment which has been such a prominent feature of the present generation, and which is doing so much to relieve therapeutics of being pure empiricism. The distinguished physician, if he were still alive, would have to modify his cynical dictum that drugs were simply "an aid to faith in the weary time of waiting."

In diseases of the chest the most notable alteration in the last thirty years has been the great improvement which has

* Aitken's Medicine, vol. ii., p. 615.

taken place in the treatment of affections of the pleura. When I left St. Bartholomew's in the end of 1868, I had never seen the chest punctured for pleural effusion, and this notwithstanding the fact that I had clerked in the medical wards for eight months under two out of the four physicians, and I had attended the practice from time to time of the other two. Paracentesis thoracis was, however, practised before the period to which I refer, and Bowditch had already communicated to the medical world the result of his experience based on 150 operations on 75 persons. Fortunately, after leaving St. Bartholomew's, I obtained the appointment of house surgeon in the country, and as one of the physicians was abreast of the times, I aspirated a patient within a month after my appointment. It is difficult to exaggerate the amount of time and suffering that patients have been spared owing to the introduction of this simple method of treatment. I have had the opportunity of experiencing its benefit in my own person.

Still more recently the operation of incising the chest wall and removing a portion of one or more ribs so as to ensure free drainage has given brilliant results in cases of empyema. One no longer sees cases of lardaceous disease due to fistulous empyema. In fact, thanks to the improved methods of surgery, and the almost entire absence of suppuration after operations, lardaceous disease is rapidly becoming a thing of the past.

In 1868 diseases of the larynx represented a *terra incognita*. I certainly had never seen a laryngoscope when I left London in 1869, and I distinctly remember taking up one in the country after my appointment as house surgeon, and wondering how it was used. Indeed, when I returned to St. Bartholomew's in 1872 as House Physician, I was induced to use the laryngoscope as I could not find one in the hospital. Nowadays, thanks to the various throat hospitals and the special departments at the general hospitals, a fair number of men acquire a knowledge of this invaluable instrument before starting in practice. If students would only realise the importance of the laryngoscope in the diagnosis and treatment of disease they would all give the necessary amount of time to acquire facility in its use. This must, however,

be done at a hospital; it is not a thing to be picked up in private practice.

In abdominal diseases, the point of view from which we regard the line of treatment is absolutely changed. Now it is conducted essentially on surgical lines, whereas thirty or even twenty or fifteen years ago expectancy ruled the day, and the surgeon, if called in at all, was only summoned when the patient was *in extremis*. In Aitken's two large volumes on the "Science and Practice of Medicine," to which I have before referred, I cannot find any hint that he recognised the condition to which we now apply the term of typhlitis or appendicitis. This instance will, I think, suffice to indicate the enormous progress which has been made in the recognition and treatment of diseases of the abdomen.

Even in 1880 Dr. Frederick Roberts* wrote: "Typhlitis and its consequences need constant fomentation and poulticing; perhaps the application of a few leeches in some cases and the administration of opium internally. If an abscess forms, it should be encouraged towards the surface, and the pus evacuated when the proper time arrives. If an accumulation can be felt in the cæcum, it may sometimes be squeezed out by gentle manipulation, but much care is necessary in practising this measure." How different is the line of treatment we adopt at the present day.

To do more than briefly enumerate some of the principal forms of disease which have been recognised and described during the last thirty years would occupy much more time than your patience would permit. But what would you think of a text-book which failed to mention Menière's, Friedreich's and Thomson's diseases, Jacksonian epilepsy, Landry's paralysis, spastic paraplegia, and other diseases of the brain and spinal cord associated with sclerosis—alcoholic and other forms of neuritis, pernicious anæmia, myxœdema, ulcerative endocarditis, osteitis deformans, actinomycosis, hæmoglobinuria, and rhincoscleroma. These are some of the chief manifestations of disease about which my text-book in 1868 was completely silent, and I think you will agree with me that the medical harvest of the last thirty years has been so thoroughly garnered that, like Ruth in

* Theory and Practice of Medicine, 4th ed., vol. ii. p. 155.

the lovely idyll of old, it seems as if there were only left scattered ears of corn for the present generation to glean.

Such, gentlemen, is a brief retrospect over the last thirty years—a long spell in the lifetime of a man, but, as it were, a moment of time in the progress of science. Still, one can look back over it as a period of great advance in all directions in the science and practice of medicine. In thinking over the past, I am often reminded of the beautiful motto carved on a sundial near Venice, "Horas non numero nisi serenas"—I only count the sunny hours. It is one of the things to be most thankful for, that time has a soothing effect on anxieties and troubles, so that we remember the pleasures of life more than the disappointments. May you all have a good share of sunny days. If perchance there comes a biting blast may it but stir you up to fresh exertions, and in the words of Charles Kingsley, in his ode to the north-east wind,

> "Bracing brain and sinew,
> Blow, thou wind of God."

THE DIAGNOSIS OF JAUNDICE.

By F. de HAVILLAND HALL, M.D., F.R.C.P.

My paper is based upon the notes of 50 consecutive cases of jaundice taken from my private case-book. Inasmuch as all but one of these cases were seen in conjunction with the ordinary medical attendant, the notes are necessarily of a fragmentary nature. In addition to the private patients, I shall refer to cases under my care in the hospital, and in the Hostel of St. Luke. In nearly all the cases I was called in either on account of some difficulty in the diagnosis, or on account of the prolonged duration of the symptoms, consequently the 50 cases to which I am directing attention will well illustrate many of the doubts and anxieties connected with the symptom jaundice. My 50 cases may conveniently be divided into six groups, viz., 18 cases of gall-stone colic, 12 of cirrhosis of the liver, 3 of hypertrophic cirrhosis, 9 of malignant disease of the liver, 5 of catarrhal jaundice, and 3 cases of jaundice due to various causes.

I will begin the review of my cases of jaundice with the largest group—*i.e.*, the cases of biliary colic. These amount, as I have already stated, to 18. Besides being the largest group, it is also the most important group, as, thanks to the advance of modern surgery, so much may be done to extricate patients from a condition fraught both with immediate and future peril.

First of all, as regards age—the youngest patient was 36 and the oldest 74, the average age being almost exactly 50 years; the female cases gave an average age of 49 as against 52 for the men. Of the 18 patients, 12 were females and 6 males. These statistics are in agreement with the experience of the most reliable authorities. Fagge and Pye-Smith, for example, write: "They (*i.e.*, gall-stones) scarcely ever occur in children, and are rare under 50 years in men

and under 40 in women"; and again, "Women are much more liable to gall-stones than men."

The classical symptoms of biliary colic are: pain, which is oftentimes of an agonising character, shivering, and vomiting, usually followed after some hours by jaundice. When these symptoms occur together, especially in a person over forty, the diagnosis is a comparatively easy matter; but there are cases in which, owing to the absence of one or more of them, or the presence of other conditions, the diagnosis becomes a matter of extreme difficulty. One of my early cases is an example of this.* The patient was a man of 49, a meat salesman. He complained of pain coming on nearly daily between 12 and 2 p.m., which doubled him up. On breaking wind upwards and downwards he obtained relief. There were no other symptoms of indigestion. A faint mitral systolic murmur was detected. He was at first treated on the idea that the symptoms were of a dyspeptic nature, but six months later I saw the patient in an attack of an anginal character. Dr. Andrew, who saw the patient in consultation with me, agreed as to the anginal nature of the symptoms, and to the proposal that he should inhale nitrite of amyl during the attacks. Later on the symptoms seemed more of a dyspeptic character, and the nitrite of amyl did not afford relief to these; but he was much benefited by blue pill, followed by Carlsbad water and a mixture containing bismuth and magnesia. For some years he had no return of the anginal symptoms, but while in apparent good health, he was suddenly seized with an attack of gall-stone colic, which a month later terminated in an hepatico-bronchial fistula. On looking back at this case I cannot help regarding the early symptoms of an anginal nature as being due to the presence of gall-stones. That there must have been some chronic trouble in the liver is shown, I think, by the fact that an hepatico-bronchial fistula developed, and I am convinced that this could not have arisen from one attack of colic. In favour of this view is the fact that after recovery from this illness the patient had no return of the pain, and died some years later of apoplexy. I have narrated this case somewhat fully, as I am anxious to emphasise

* See Lancet, 1886, vol. ii., p. 921, for full report.

the fact that attacks of gall-stone colic coming on without jaundice may be mistaken for angina pectoris. Dr. Brinton* was one of the first to point out this difficulty in diagnosis. Heberden† was of opinion that attacks of gastrodynia are not unfrequently due to biliary concretions. He based his opinion on the fact that he had seen a very considerable number of persons, who for many years had been subject to return of pains in the epigastrium, which were at last associated with jaundice. The case which I have just described evidently came under this category, as does also one to which I shall refer later on.

In the case to which I have just directed attention, attacks of pain in the epigastric region preceded the jaundice by some years; but in another of my cases, a very fat woman, 62 years of age, there was the history of an attack of jaundice 20 years previously, accompanied by the symptoms of biliary colic, but for two or three years before I saw her she had had severe attacks of pain shooting through to the back, coming on paroxysmally, and accompanied by vomiting. There can be no doubt, I think, that these later attacks were, equally with the first attack, due to biliary colic. The explanation of the absence of jaundice being either that the gall-stone entered the cystic duct and then slipped back again, or that the first stone had dilated the common duct sufficiently to allow its successors to pass into the duodenum without blocking the duct long enough to cause jaundice.

The situation and character of the pain in biliary colic are characteristic. The pain is generally referred to the right hypochondrium; it may shoot through to the back and upwards to the right shoulder. I always make a point of the pain being above a line drawn horizontally round the body at a level with the umbilicus. In one of my cases, in addition to the pain in the hepatic region, the patient, a woman of 38, had pain down the course of the right ureter, with frequent micturition. In this case I ventured to diagnose the existence of renal colic in addition to hepatic colic. Cases of the co-existence of biliary and renal calculi have been recorded. In biliary colic two kinds of pain are described

* Diseases of Stomach. 2nd ed., p. 354.

† Commentaries on the History and Cure of Diseases, p. 156.

by most patients; the one acute and agonising, and patients who have experienced it are ready to endorse Sir Thomas Watson's statement: "The pain that attends the passage of a gall-stone through these ducts is often dreadful—perhaps there is no pain to which the body is subject that is more severe."* The acute pain is usually relieved by pressure, but after a time there comes a chronic pain of a dull aching character, and in this case the liver becomes tender.

One of the most difficult group of cases to diagnose are those in which the obstruction to the bile ducts takes place with little or no pain. Such a case is that of a man, aged 69, who consulted me in the autumn of 1893. I failed to elicit any history of pain at his first visit, though he stated that the illness had come on with attacks of severe shivering. His medical attendant, however, informed me that there had been pain. When I saw the patient he had been deeply jaundiced six months, and had lost much flesh. I strongly urged an exploratory incision, but the patient at this time would not consent. In June, 1894, the liver was markedly enlarged, extending to about three inches below the costal arch, and very hard to the feel. I did not myself see the patient at this time, but he was seen by a distinguished London surgeon, who declined to operate as he regarded the case as of one of malignant disease of the liver. The next report I received of the patient was from his country doctor, who wrote in April, 1895, and stated that the patient had been quite well for the past three months, and had gained 15 lbs. in weight. The jaundice in this case lasted rather over 18 months. The original diagnosis of blocking of the common duct from a gall-stone was almost certainly the correct one, although for some months the diagnosis of malignant disease seemed to be justified.

Another remarkable case was that of a lady, aged 34, in whom jaundice came on with epigastric pain, attacks of shivering, with a temperature of 102° to 103°, followed by sweating. When the jaundice had lasted five months, the patient was much emaciated, and her country doctor reported that she looked as though she were dying of a malignant liver. At this time she placed herself under the care

* Lectures on the Practice of Physic, 2nd ed, vol. ii, p. 525.

of an irregular practitioner, who said that he could cure her with Count Mattei's medicine. Four days after taking this medicine bile appeared in the motions, and disappeared in the urine, and in a month's time she was perfectly well. Her country doctor, in reporting the case to me, wrote: "I think it must have been a case of emotional jaundice, and the cure one of faith-healing." I do not think that we need employ so fanciful an hypothesis. This case reminds me of one described by Dr. Norman Moore,* in which sudden relief to the symptoms occurred after jaundice had existed for 2½ years. Curiously enough, in this case immediate improvement took place on the patient being told by a fresh doctor, who came to see him, that he was not going to die, he having previously been given up by two doctors. In the language of the patient, "Those words coming from a doctor acted like magic upon me. He said he would cure me. I believed him at once. After taking four doses of his medicine the yellow colour left me, and in seven or eight days I was walking in the garden, only still very weak, but getting stronger every day." The patient eventually recovered completely. The probable explanation in both these cases is that the common duct was blocked by a stone, and that its passage into the duodenum resulted in relief to the symptoms. Could it be that the joyful shock of hearing that cure was possible may have contributed to the displacement of the stone? I think that this idea may reasonably be entertained.

One of the most remarkable cases that I have seen was that of a clergyman, aged 55, who came under my care in the Hostel of St. Luke in 1894. He stated that he was in good health until the autumn of 1893, except for occasional attacks of colic, about a dozen in all, during the last five to ten years. He described the pain as commencing in the right hypochondriac region, and extending upwards. The attacks usually lasted about two hours, and were accompanied with much flatulence. He was generally ill for a week afterwards, and had a fixed pain just below the liver. The pain gradually left him as he got better. He was never jaundiced. In September, 1893, he had an attack similar to

* St. Bartholomew's Reports, vol. xxviii., p. 127.

those he had experienced previously; while convalescing he ate heartily of bacon and eggs, and had a relapse, accompanied with vomiting, and two attacks of shivering followed by sweats. He was in bed seven weeks. He slowly improved until the second week in January, when jaundice, unaccompanied by pain or sickness, gradually came on. When he presented himself for examination he was deeply jaundiced; motions light coloured, urine stained with bile. There was no increase in the normal area of liver dulness, but a somewhat tender mass was to be felt in the epigastrium. There was marked loss of weight—11 st. 8½ lbs., against an average weight of 13 to 14 st.

The patient was kept under observation for about two months. On April 7th, 1894, he weighed 11 st. 1½ lb. As there was no improvement, the patient consented to an exploratory operation. The abdomen was accordingly opened by Mr. Rose on April 9th, but the result at the time was not satisfactory, as nothing definite was made out, except an induration in the neighbourhood of the head of the pancreas. The abdomen was sewn up; the patient made an uninterrupted recovery, so far as the operation was concerned, and left for home on April 23rd, apparently unrelieved—*i.e.*, he was as deeply jaundiced as on admission.

On June 15th, 1895, he came up from Wales to see me. He weighed 12 st. He informed me that he began to improve after the cold weather in the winter set in. He suffered from bleeding piles and diarrhœa. He was quite restored to his usual health. This was a very difficult case for diagnosis. My first impression, and I believe the correct one, was that the jaundice was the result of biliary colic. The discovery of a tumour deep down in the epigastric region, however, pointed to malignant disease. To settle the diagnosis the exploratory operation was undertaken. No gall-stones were found, and as there was a distinct mass in the region of the pancreas, the patient was informed that he probably had a malignant growth. Whether the operation, by breaking down adhesions which may have existed, had anything to do with the cure or not it is very difficult to decide; at all events the patient made a perfect recovery.

Among the cardinal symptoms of gall-stone colic, rigors

occupy a prominent position, and if they should happen to occur without jaundice in the first instance, they may lead to a mistaken diagnosis; in one of my cases the country doctor made the diagnosis of "low intermittent fever" on account of the repeated attacks of shivering. In a case I have recently seen the rigors were repeated at such regular intervals, and the patient passed through the cold, hot, and sweating stages, the temperature rising to 104°, in so characteristic a manner that I thought it possible the patient might be suffering from ague in addition to the biliary colic, especially as he lived in a low-lying district, so I ordered quinine without any particular advantage that I could see. The rigors in this case must, I think, be attributed to the biliary colic. Though the symptom is a somewhat alarming one and distressing to the patient, I cannot say that I have ever seen any evil result from it. In one of my patients the rigors were so severe as to cause the patient, a woman of 62, to lose consciousness at times. As regards the cause of the rigors, Sir Thomas Watson considered them to be due to the distention of the duct by the stone, and he pointed out that rigors "sometimes happen when a solid substance—a bougie to wit—is passing through and distending the urethra."* In a woman of 43, in whom sickness was a very marked and persistent symptom, great relief coincided with the appearance of the catamenial period.

That gall-stones may give rise to no symptoms sufficiently characteristic to awaken suspicion of their existence is proved by the numerous cases in which gall-stones have been found at the necropsy without any history of attacks of colic or jaundice.

As regards the result of the 18 cases of biliary colic, I may state that 11 recovered—*i.e.*, that many months or years have elapsed since the last attack. Of one case I have no report, one case is still under observation, and five of the patients are dead. Of the five deaths, one took place, as I have already mentioned, from apoplexy; one died suddenly after a hearty meal three months after the attack of gall-stone colic; two died directly as the result of the attack, or rather attacks, of gall-stone colic, and the remaining patient

* Principles and Practice of Medicine, 2nd ed, vol. ii. p. 526.

died from pyle-phlebitis, brought about, as I believe, by the impaction of gall-stones in the ducts. In one of the cases in which death occurred directly from the attack of colic, I strongly urged cholecystotomy as the only possible chance for life, but the patient and her friends would not allow it to be done.

I have notes of a case of death due to intestinal obstruction, as the result of the impaction in the ileum of a gall-stone, which had ulcerated into the duodenum. As there was no jaundice in this case, I have not included it in my cases of gall-stone colic. Nor shall I do more than mention a case in which death took place from perforative peritonitis as the result of the ulceration of a stone through the common duct into the peritoneal cavity. Among the cases of malignant disease of the liver is one in which the disease started from the gall bladder, evidently as the result of the irritation of gall-stones. I draw attention to these as possible modes of fatal termination in cases of gall-stone.

In describing the method of searching for gall-stones in the evacuations, Sir Thomas Watson made a curious mistake for so acute an observer. In his lecture on the "Principles and Practice of Physic," he writes*: "The fæces should be mixed with water, upon the surface of which any gall-stones, since they are specifically lighter than that fluid, will float. I never but once succeeded in thus catching a concretion in the evacuations of a patient, whose symptoms had led me to search for it." And no wonder that he was so unsuccessful. In a later edition he explains how he made the mistake of thinking that gall-stones would float to the top. He tried the experiment with dried calculi, and finding that they floated, he assumed that recent ones would also float, but fresh gall-stones, when saturated with moisture, are usually heavier than water, and consequently sink.

I may briefly summarise my remarks on gall-stone colic as follows:—

1. Gall-stones may be quite latent, their presence being only detected at the necropsy.
2. Usually, however, pain, vomiting, and rigors, followed by jaundice, are met with in biliary colic.

* 2nd ed., vol ii, p. 527.

3. In some cases the presence of gall-stones is indicated by the existence of paroxysmal pain at the epigastrium without jaundice.
4. In exceptional cases jaundice may result from the impaction of a gall-stone, and be accompanied with little or no pain.
5. Recovery is the rule in biliary colic.
6. Permanent jaundice may be the result of the impaction of a stone in the common duct.
7. Death may result directly from collapse due to the pain, from pyle-phlebitis or general pyæmia, from perforative peritonitis, from intestinal obstruction, cancer, or, finally, from asthenia.

Of the nine cases of malignant disease of the liver, two were men and the remaining seven were women. These figures are too few to found any definite conclusions on. However, women are more frequently attacked by cancer in about the proportion of 4 to 3. The greater frequency of cancer of the liver in the female sex being due to the fact that the breasts and pelvic viscera of women are so often affected by cancer, secondary deposits taking place in the liver. Of the nine cases, the eldest was 78 and the youngest 46, the average age being a little over 53. As regards the duration of the cases, the longest lasted ten months from the commencement of any definite symptoms, whereas in one case the disease ran its whole course in ten weeks, the average period being four and a half months. This corresponds with Dr. Hale White's statement: "Usually all is over in less than six months."* Occasionally, however, cases occur, and I have seen such, in which the patient struggles against the disease so long that the diagnosis comes to be questioned. My experience goes to prove that the younger the patient the quicker does the disease run its course. My nine cases favour this view—the average duration of the cases dying over 70 was five months; over 60, four months; and under 60, $3\frac{1}{4}$ months.

In some of the cases running a rapid course there is febrile disturbance, and the temperature may even assume a hectic type, so that the condition may stimulate suppura-

* Allbutt's System of Medicine, vol. iv., p 200.

tion and lead to abscess in the liver being suspected. A case of this kind occurred while I was house physician at St. Bartholomew's, and last year I had a patient under my care in the hospital with an evening rise of temperature of from 101° to 102°.

The size and character of the liver depend very much upon the situation and nature of the malignant disease. If the glands in the portal fissure of the gall bladder are primarily involved you may have marked jaundice without any recognisable enlargement of the liver. This I have verified in some of my cases at the necropsy.

Of my nine cases, in five the liver was enlarged, in three it is stated that the liver was not enlarged, and in the remaining case I have no note as to the size of the liver. In one of the cases the enlargement of the liver was irregular, and the umbilications on the surface of the liver could be made out distinctly. In two of the cases there was irregular enlargement, in the other two the enlargement was uniform. In cases where there is no enlargement, or the enlargement is uniform, there is usually great difficulty in making a diagnosis. I shall refer to this point again when I come to speak of hypertrophic cirrhosis. There is something very characteristic about the intense jaundice met with in some cases of cancer. In a woman of 70, whom I saw last summer, the jaundice was of a very deep yellow; in some instances the skin assumes a greenish tinge.

According to Dr. Hale White*: "In more than half the cases the deposit of cancerous nodules in the liver produces no symptoms by which they can be recognised during life, and then, as far as we know, they do no harm." Inasmuch as only about half the patients who present symptoms of carcinoma of the liver are jaundiced, it results that a quarter only of the cases which, at the necropsy, are found to be suffering from cancer of the liver will come under the heading of this division of my paper, viz., jaundice due to malignant disease of the liver. In addition to jaundice, ascites may be present. This "concurrence of jaundice and ascites is met with in scarcely any disease excepting cirrhosis and cancer."†

* Allbutt's System of Medicine, vol. iv., p. 197.

† Fagge & Pye-Smith's Principles and Practice of Medicine, 3rd ed., vol. ii., p. 343.

In three of the patients excessive pruritus was complained of. I am disposed to think that pruritus is more marked in cases of jaundice due to malignant disease than in other varieties, possibly because the jaundice, as a rule, lasts longer and is more intense. Pain is not at all a necessary symptom of cancer of the liver, nor in my experience is it of a very severe character. The liver is, however, frequently tender, and pain may be elicited when the patient coughs. Attention has been called to the occurrence of spasmodic stricture of the œsophagus as an early sign of cancer of the liver; this symptom I have not observed.

SUMMARY.

1. Jaundice coming on gradually in a person over 50, and persisting over two months, is almost certainly due to malignant disease—if impaction of a gall-stone and hypertrophic cirrhosis can be excluded.
2. The onset of malignant disease is usually unattended by pain; contrariwise gall-stone colic is generally painful.
3. The colour of jaundice due to malignant disease is generally deeper than that met with in other forms of jaundice, and it may assume a greenish tinge.
4. An irregular enlargement of the liver, especially if the nodules are umbilicated, is pathognomonic of malignant disease.
5. The combination of jaundice, enlargement of liver, and ascites, points to cancer or cirrhosis of the liver.
6. The differential diagnosis between these two conditions is sometimes almost impossible during life, and even after death it is only to be arrived at with certainty by a microscopic examination.

CIRRHOSIS OF LIVER.

The cases of cirrhosis of the liver with jaundice do not present any particular features for comment. They were 12 in number—7 males and 5 females. In 7 of the cases ascites was present at the time of my consultation. In 6 of the cases I find a note to the effect that the liver was enlarged. The jaundice is usually described as slight. In-

asmuch as jaundice is commonly absent or limited to a slight yellowish tinge of the conjunctivæ, I take it that in the cases under consideration some other condition was present. In one or two there was evidence in favour of an attack of catarrhal jaundice; in some of the cases in which the liver was enlarged, it is possible that we had to do with a condition of hypertrophy or biliary cirrhosis.

The enlarged livers met with in the patients with well-marked symptoms of cirrhosis were in all probability due to fatty infiltration.

SUMMARY.

1. If in cases of cirrhosis there is marked jaundice, the supervention of some other condition such as catarrh of the ducts or biliary cirrhosis is to be borne in mind.
2. The enlarged livers met with in cases of cirrhosis are usually due to fatty infiltration.
3. Jaundice is more often found associated with enlargement of the liver than when the liver is markedly contracted.

HYPERTROPHIC CIRRHOSIS.

The very existence of this disease as a morbid entity is still *sub judice*. In my case-books I have found only three cases recorded to which I have affixed the title of "hypertrophic cirrhosis," and in none of these, unfortunately, was I able to confirm the diagnosis by a necropsy.

Clinically, I am satisfied, from my own experience and from the study of the literature of the subject, that there is a form of enlargement of the liver, without pain or marked tenderness, which comes on insidiously, usually runs a chronic course, but sometimes terminates acutely, in which jaundice is an early and persistent symptom, whereas ascites is generally absent. In these cases death takes place from cholæmia—*i.e.*, the retention in the system of products normally eliminated in the bile.

The three cases referred to were all in men—44, 60, and 66 years of age respectively. In all the liver was greatly enlarged, perfectly regular in outline, and only slightly, if at all, tender. Intense jaundice was a marked feature. In

one there was a slight amount of ascites towards the end. There was no history of epistaxis, hæmatemesis, or melæna. In one of the cases there was elevation of temperature. As a post-mortem examination was not obtainable in these cases, it is, of course, impossible to exclude the condition of the liver brought about by an impacted gall-stone or that due to cancerous infiltration.

SUMMARY.

1. The existence of a painless enlargement of the liver with jaundice of long standing suggests the existence of hypertrophic cirrhosis, if cancer can be excluded.
2. Ascites is not a common symptom.
3. Epistaxis, hæmatemesis, melæna, and piles are commonly absent.
4. Death takes place from cholæmia or asthenia.

CATARRHAL ICTERUS.—IDIOPATHIC OR SIMPLE JAUNDICE.

Under these headings are included cases, which are of common occurrence, but of the pathology of which at present we know little or nothing. The term catarrhal was applied under the idea that the jaundice is due to the extension of a gastroduodenal catarrh to the common bile duct, and consequent blocking of the same. There are many cases in which there is no evidence of the catarrhal origin of the jaundice, and potent arguments can be brought against this view; still, for the present it may be accepted as a possible explanation of a large number of cases of jaundice. Inasmuch as simple jaundice is a disease which usually runs an uncomplicated course of from two to three weeks, it does not often come under the purview of the physician in consulting practice, though he may have frequent opportunities of observing the disease in hospital wards. I have, therefore, notes of only five cases, one of which was a mild case, and solely under my care. In the remaining four cases I was called in consultation twice on account of the length of time jaundice had existed, and twice on account of pulmonary complications, once pleurisy with effusion, and once bronchitis and congestion of lungs.

They all recovered. In regard to the diagnosis of catarrhal jaundice, two possibilities must be borne in mind. The first is the chance, a very remote one I grant, that the attack of jaundice which has come on without any symptoms calculated to excite alarm may be the precursor of that very fatal disease, acute yellow atrophy of the liver. I had one such case under my care in the hospital last year. For the first few days there was nothing to arouse the suspicion that the case was anything more than an ordinary catarrhal jaundice. Soon, however, there was rapid diminution in the area of liver dulness, then came on delirium, passing into coma and death. At the necropsy the appearances were those characteristic of acute yellow atrophy. The patient was a woman of 38. Acute yellow atrophy is especially a disease of women between the ages of 20 and 40.

The other difficulty in diagnosis arises usually in middle-aged or old people. Given an attack of jaundice which has come on gradually, say, in a man over 50. At first the medical attendant takes a hopeful view, and regards the case as one of simple jaundice; but if after three or four weeks, or still more, five or six weeks, there are no signs of improvement, then the patient and his friends begin to get anxious, and probably suggest a second opinion. These are, in my experience, about the most difficult class of cases in which to make a diagnosis. In fact, in many I believe it is absolutely impossible to say with any certainty that the jaundice is or is not due to malignant disease; and it is only time, the wisest thing on earth, that will clear up the diagnosis. In two or three of the cases I have placed in the category of malignant disease, the symptoms at the onset were so ill-defined that it was impossible to say that the case was not one of simple jaundice, and it was only the after-history of the case that allowed the true diagnosis to be made. On the other hand, in one of the cases of simple jaundice the weight of evidence seemed to incline, at the time I saw the patient, in favour of malignant disease. The patient was a man of 60. The jaundice had come on gradually, and had lasted three weeks, and there was most intense irritability of the skin. After a long illness the patient recovered completely, so that the diagnosis of catarrhal jaundice is clearly

the correct one. Under 30, jaundice coming on unaccompanied by pain or grave constitutional symptoms is almost certainly of a simple or catarrhal nature; between 30 and 50 years of age, it is probably of the same nature; above 50 the possibility of the jaundice being one of the initial symptoms of malignant disease of the liver must always be present to the mind of the practitioner.

SUMMARY.

1. Simple jaundice may be preceded by symptoms of gastro-intestinal catarrh, or come in without premonitory symptoms.
2. The onset of acute yellow atrophy may resemble an attack of simple jaundice.
3. Above 50 years of age there is great difficulty in distinguishing between simple jaundice and jaundice due to malignant disease of the liver.

JAUNDICE DUE TO VARIOUS CAUSES.

There now remain only three cases for consideration. In two of these the jaundice seems to have been due to engorgement of the liver, in one case as the result of emphysema, and in the other from "backwardation" of the circulation consequent on mitral disease. The third case was due to the pressure of a pancreatic cyst upon the common duct.

The jaundice due to venous engorgement of the liver is clearly of the obstructive variety, being caused by the swollen state of the liver preventing the passage of bile through the ducts. In most cases of advanced cardiac disease with engorgement of the lungs, the patients have an icteric tinge, and occasionally they are deeply jaundiced. In these cases the jaundice is only an epi-phenomenon, and is quite overshadowed by the primary disease. The remaining case, that of jaundice due to the pressure of a cystic tumour of the head of the pancreas, is an example of the extreme complexity of the problem offered for solution in cases of jaundice.

The patient was a woman of 33 whom I saw in consultation on the 30th November, 1893. She gave me the history of an attack of influenza a month previously; she was convalescent the week before my visit, went down stairs and

had a hearty dinner. In the evening she was sick, and jaundice followed. With this definite account of jaundice coming on suddenly, unaccompanied by pain, in a patient convalescing from influenza, who had committed an indiscretion in diet, I felt justified in making a diagnosis of catarrhal jaundice, and giving a good prognosis. Unfortunately, neither my diagnosis nor prognosis was confirmed by the subsequent course of events. As the patient did not improve, I was again called in to see her on January 19th, 1894. I found the patient more deeply jaundiced than on my previous visit. In the epigastrium there was a marked sense of resistance, and I now made the diagnosis that she was probably suffering from malignant disease of the head of the pancreas. This diagnosis was nearly, but not quite, correct. An exploratory operation was performed, and the cause of the patient's trouble was found to be a cyst of the head of the pancreas. The patient died one week after the operation. The case well illustrates some of the difficulties attending the diagnosis of the cause of jaundice in any given instance. As I have already stated, the suddenness of the onset of the jaundice, the absence of pain, its occurrence in a patient in a somewhat debilitated condition, who had eaten a hearty meal, which was followed by sickness, seemed to me to constitute a perfect clinical picture of an attack of catarrhal jaundice; and even looking back on the case with the light afforded by the subsequent course of events, I fail to see how any other diagnosis could have been arrived at.

On my second visit it was quite clear that my original diagnosis was no longer tenable. And now the difficulty arose as to what was the nature of the tumour which could be felt in the epigastrium. I diagnosed malignant disease of the head of the pancreas. I was very near the mark, as the head of the pancreas was affected, but with a cyst and not with malignant disease. There are so many tumours in this neighbourhood which may cause jaundice by compressing the common duct that there is always an element of chance in the diagnosis. Thanks, however, to the improved methods of abdominal surgery, and the consequent greatly diminished risk of opening the abdomen, it is now always possible to look inside and see the cause of the obstruction without exposing the patient to any great risk.

INFANT FEEDING.

By W. A. WILLS, M.D., M.R.C.P.

The subject of infant feeding, though very important, can hardly claim to have any novelty; but it seems to me that there still remain some points which are worthy of consideration. Of recent years, moreover, the introduction of various scientific methods of dealing with cows' milk, both in respect to its preservation and modification, have raised a number of fresh questions which hardly existed previously. Lastly, one cannot help at times feeling somewhat at a loss among the host of proprietary infant foods which are brought to one's notice and the notice of all parents on every possible occasion, both seasonable and unseasonable, whether at midday by means of an 8-ft. poster, at midnight by a revolving electric sign, or at intervening hours by the assistance of the postman. Are these articles, obviously very remunerative to the vendors, equally necessary and desirable for the purchaser and the infant who has to accept them whether they are good for him or not?

The possibility of feeding the baby on human milk, which is the normal food of the infant until he reaches the age of nine to twelve months, must first be considered. There is no question that, whenever it can be carried out without injury to the mother or the child, an infant should be suckled; and if the mother be a healthy woman, with well-developed breasts, a good supply of milk, and a suitable temperament, the child will do better with this form of food than any other; and owing to the sterile state of the mother's milk when it reaches the child's digestive organs, the risk of the various intestinal maladies, due to fermentative and putrefactive changes, will be reduced to a minimum.

But for this feeding to be successful it must be carried out

in a systematic manner, exactly as is necessary in all forms of artificial feeding. Undoubtedly the common fault among the poor is too frequent suckling, "giving the breast whenever the baby cries," and so preparing a fresh cause of wailing which again requires (in the mother's view) a similar treatment. But on the other hand, in the case of many wasted and wasting babies who do not cry, careful inquiry will elicit the fact that suckling takes place at very long intervals. In the case of a three-months-old child as long a time as 4 to 4½ hours may elapse between the day-feeds, and the baby may be "so good" that it sleeps right through the night from the parents' bed-time till 6 or 7 in the morning. Yet this "good" baby will probably be a miserably pale and thin object, entirely wanting in the natural vivacity of the healthy infant, and this feebleness will be found to depend entirely upon the faulty method of feeding. Breast-feeding, therefore, should be carried out after the second day very much as follows:—

Age.	Number of feedings in 24 hours.		Interval in hours during day 7 a.m. to 9 p.m.		Number of feedings during night from 9 p.m. to 7 a.m.
3rd day to end of 1st month	10	...	2	...	2
2nd month	9	...	2½	...	2
3rd to 6th month.....	7	...	3	...	1
7th to 10th or 12th month ..	6	...	3	...	0*

* The last evening feed will now be later, 10.30 or 11 p.m.

Most mothers living in towns will not be able to continue nursing after nine months, but in the country, if strong and healthy, they may go on as long as twelve months. In some countries—for instance, China, and I believe also Japan—it is the custom for suckling to continue as long as three years, and I recently met with a similar case in an English mother! It is rare among the children of the poor, who have been suckled for as long as 18 to 20 months, to find no ill-effects from this method of administering the necessary milk constituents of the child's food.

Experiments have been made by Haehner, Laure, Ahlfeld, and others on the quantity of milk secreted by healthy women who were nursing infants which were gaining weight in a steady and satisfactory manner, and thus proving that the amount of milk given to them was sufficient for their wants.

The results obtained are shown in the following table:—

Age of infant.	Approximate amount of milk secreted in 24 hours.	Average quantity taken by infant at each feeding.
1st week	8 ozs.	$\frac{6}{10}$ oz.
2nd „	15 „	1½ ozs.
3rd „	18 „	1¾ „
4th „	21 „	2 „
5th—7th weeks	26 „	3 „
3rd month	28 „	4 „
4th „	29 „	4⅙ „
5th „	30 „	4¼ „
6th „	32 „	4½ „
7th—10th months ...	35 „	6 „

These averages are probably rather low. The composition of human milk, according to recent analyses, is:—

	Average.	Ordinary variations in healthy women.
Fat	4·0	3·00 to 5·00
Sugar	7·0	6·00 „ 7·00
Proteids	1·5	1·00 „ 2·25
Salts	0·2	0·18 „ 0·25
Water	87·30	85·50 „ 89·82
	100·00	100·00 100·00

Practically in all substitute feeding of infants what we have to aim at is to produce a milk mixture which shall have a composition as near that of human milk as possible, and shall also correspond in the character of its curd and in its reaction.

It is important that the milk should be obtained from a mixed herd of healthy cows, and seeing the importance of avoiding tubercle-infected milk, it is wise to ascertain that the dairy makes a practice of subjecting their herd of nursery-milk cows to the tuberculin test. This several of the large London dairies profess, and I believe with truth, to do. It is usually said that unless the udder be actually affected with tubercle there is no great danger in using the milk. This may be so, but the more stringent condition of the cow being free from any reaction to tuberculin seems more rational and desirable. Even if the milk of a tuberculous cow be free from bacilli, it is very likely to be poor in quality as coming from a weakly animal.

It is no less important that strict attention should be paid to the cleanliness of the milk. No one who has not seen the

result of submitting ordinary dairy milk to the action of the separator would imagine the amount of hair, epithelium, straw particles, and other dirt left behind after centrifugalisation.

Some of the best dairies now supply nursery milk in glass bottles, with glass stoppers, a notable advance over the old tin-can system, from which adults still suffer.

Naturally it is most desirable that the milk should be transported as rapidly as possible from the cow to the infant, and a dairy whose nursery herd is kept near its customers should always, if possible, be selected. Almost all milk suppliers now use milk coolers, by which the freshly-drawn milk is rapidly cooled to 40°—45° F. before being put into the churns for despatch. The effect of thus checking germ-growth is to preserve the milk sweet at least twice as long, even in hot weather, as if this precaution were not taken.

When the milk for an infant is received into the house steps should be immediately taken to check any further germ development either by boiling, sterilising, or pasteurising. Boiling is a very ancient and rough method of sterilisation. It is very extensively used among the poorer classes, and is probably fairly successful in destroying tubercle bacilli and the germs of scarlet fever, diphtheria, and other infectious diseases; but it can hardly be considered an accurate or scientific method of preserving milk.

Sterilisation of milk as usually carried out is not the complete process of the bacteriological laboratory, where the object to be sterilised is subjected to a temperature of 212° F. for a period of 1 to 2 hours for several successive days, but consists in raising the temperature of the milk contained in a self-sealing bottle to 212° F. for about $1\frac{1}{2}$ hour on one occasion only. This renders the milk so far sterile that it will "keep" for at least a week at ordinary temperatures, but all germs are not thereby destroyed. The taste is objectionable to many children; the milk is darkened by the conversion of some of the sugar into caramel; and the casein is rendered less easily coagulable, and therefore more difficult of digestion. Hence children brought up on this milk are more liable to constipation. The anti-scorbutic properties of milk are undoubtedly seriously interfered with, and so strong

is the feeling in England on this subject that I believe very few children's hospitals and institutions sterilise their milk as a routine procedure. As a nation we differ greatly in this respect from France, Germany, and America. But sterilised milk is very valuable for travelling, sea voyages, and special but temporary conditions, when satisfactory fresh milk cannot be obtained. Before embarking definitely on a sea voyage on which absolute dependence is about to be placed on sterilised milk, it is well to accustom the infant to its use, as many children simply refuse to take it at first, on account of its bitter taste.

For all practical purposes "Pasteurising" milk or sterilising it at a lower temperature, is much to be preferred. The milk is placed in the usual self-capping bottles, and exposed to a temperature of 167° F. for 15 to 20 minutes, in a vessel similar to an ordinary Soxhlet sterilising apparatus, a good example of which is the "Tutélaire." After being thus heated, the bottles, which each contain the necessary quantity of milk for the meals of the next 12 or 24 hours, are rapidly cooled by plunging in cold water, or better, by being placed under cold running water.

In milk thus treated the bacilli, but not necessarily the spores, of tuberculosis, typhoid fever, diphtheria, and scarlet fever will be destroyed, and the milk will not keep more than 24 to 36 hours at ordinary room temperatures. But if used within the next 24 hours, the danger to the infant from the ordinary putrefactive changes of milk will be entirely obviated.

The antiscorbutic properties of fresh milk will probably not be interfered with by this operation, and no obvious change in the taste or appearance of the milk will be noticed. It seems an admirable compromise between using the milk fresh and boiling or sterilising. Of course the process of pasteurising has been used most extensively on the Continent for years past for the preservation more especially of the light bottled beers which replace our imperfect national beverage, and therefore its effectiveness has been put to the test on a very large scale.

Presuming that the milk has been treated in one of these ways, we have now to consider how it may best be adapted

to the use of the infant, so as to resemble as closely as possible the human milk which would be its natural food.

Compare the composition of the two:—

	Human milk.		Cow's milk.
Fat	4·00	...	3·50
Sugar	7·00	...	4·30
Proteids	1·50	...	4·00
Salts	0·20	...	0·70
Water	87·30	...	87·50
	100·00		100·00

Cow's milk, therefore, contains an excess of proteids and salts, a considerable deficiency of sugar, and very slight deficiency of fat. Its reaction is usually acid instead of neutral, and its proteids form a curd which is coarser and more difficult of digestion.

Every one is familiar with the plans usually adopted to bring the cow's milk more nearly to the standard of human milk, namely, the addition of water or barley water; sugar, usually cane, but better milk-sugar; and lime water to neutralise the acidity. Sometimes cream is added to bring the diluted milk up to the human fat standard.

The effect of dilution with water on the relative amounts of the various constituents is shown here:—

	Cow's milk.		+ 1 part water.		+ 2 parts water.		+ 3 parts water.
Fat	3·50	...	1·75	...	1·16	...	0·87
Sugar	4·30	...	2·15	...	1·43	...	1·07
Proteids	4·00	...	2·00	...	1·33	...	1·00
Salts	0·70	...	0·35	...	0·23	...	0·18

As the proteids are the constituent most difficult of digestion for the infant, practically the milk has to be diluted so as to reduce them to the human proportion—*i.e.*, by the addition of two parts of water, the result of which is a milk lamentably deficient in fat and sugar. The latter is easily remedied by the use of milk-sugar, and the former by the addition of cream in the ordinary form in which it is obtained from the dairy.

But of late years greater accuracy has been aimed at in the composition of these standard milks, and the invention of the milk-separator, one of the most valuable and important of recent improvements in dairy utensils, has rendered it

possible to use modified milk of almost any standard that may be desired.

The pioneer in the introduction of scientific milk modification has been Dr. Rotch, of Boston, U.S.A., and the outcome of his arrangements has been the establishment of the Walker-Gordon milk laboratories in many of the chief American towns, and latterly a branch institution has been started in the West End of London. Some of the large English dairies are also undertaking similar special treatment of milk.

The plan adopted in the Walker-Gordon institutions is as follows:—They keep their own cows, under the most careful supervision and in specially constructed stables, at a short distance from the town. Of course the animals themselves and the dairymen are subject to rigid medical inspection as regards tuberculosis and the various infectious diseases. The milk is drawn into glass pails, aërated, and cooled to about 44° F., and delivered direct to the laboratory. On arrival its reaction is almost neutral. It is at once put into a separator, revolving 6,800 times a minute, and divided into

	Fat.		Sugar.		Proteids.
Cream	16·00	...	4·00	...	3·60
Separated milk.....	0·13	...	4·40	...	4·00

the percentage of salts not being taken into consideration, as the proportion of salts will be about correct when the proteids have been suitably adjusted.

These two products form, with the addition of a 20 per cent. solution of milk-sugar prepared with distilled water, the mixtures by a combination of which the laboratory can make up any milk modification within the following limits:—

Fat	from	0·20	to	16·00.
Sugar	„	1·07	„	7·00.
Proteids	„	0·45	„	3·60.

Take, for example, a prescription for a child two months old:—

Fat	3·0 per cent.
Milk sugar	6·0 „
Proteids	1·0 „

Reaction faintly alkaline.

Number of feedings, 8. Amount for each time, 3½ ozs. Heat to 167° F. for 20 minutes.

The operator receiving this prescription will pick out a basket containing eight compartments, and place in each a perfectly clean bottle of a shape that can be afterwards used as a feeding bottle by the simple addition of a teat. He will then, from his tables, so combine his three constituents as to produce exactly this percentage, and he will add sufficient lime water to produce the right reaction.

He then places in each bottle the 3½ ozs. required for each feed, and the bottle is stoppered with specially pure cotton wool. The basket and tubes are then placed in a large sterilising chamber and pasteurised at 167° for the necessary time (*i.e.*, about 20 minutes). The bottles are now ready for delivery. In this process care is taken that the part of the vehicle used for returned baskets and empty bottles is separate from the part occupied by the full bottles.

All that remains to be done before using the milk is to warm it to the right temperature, remove the cotton wool plug, and attach the rubber teat.

By this means the cow's milk reaches the child in as pure a condition as it is at present possible to attain, and the extraneous materials added consist of sterilised water, lime, and sugar of milk. The curd from milk thus modified is almost, though not quite, as fine as the curd of human milk.

Another form of modified cow's milk, in which the use of the separator is an essential element, is Gaertner's humanised milk. To the fresh cow's milk is added an equal quantity of boiling water. The mixture is placed in a separator so arranged and revolved at such a speed that the streams flowing out from the two spouts are equal. One of these streams contains all the fat, half the proteids, milk-sugar, and salts. The dirt in the milk remains behind in the separator. The approximate composition of this fluid will be:—

	Per cent.
Fat	3·50
Sugar	2·15
Proteids	2·00
Salts	·35
Water	92·00

Obviously all that is necessary to bring this almost exactly to the human standard is the addition of 4·85 per cent. of milk-

sugar, or about 1 oz. to the pint of the mixture. This is then placed in bottles and sterilised or pasteurised. By repeating the process of separation the amount of proteids can be diminished to any required standard. The curd from this mixture is finely divided, showing that the casein is in an easily-digestible state.

As a guide to the proportion of the various constituents that should be observed, the following points have to be noted. An excess of fat is apt to produce vomiting, or simply regurgitation of food one to two hours after the meal. Sometimes the bowels act too frequently, though the motions may appear normal. There is no doubt that deficient fat tends to produce constipation, and this is the cause of much of the constipation met with among the infants of the poor, brought up on milk which from one cause or another is almost certain to be deficient in fat, and explains why this constipation often disappears on the administration of cod liver oil.

Insufficient sugar (a rare thing in artificial feeding) results in slow gain of weight; excess of sugar in colic and wind, with occasional vomiting.

Proteids are one of the great difficulties in artificial feeding. When they are in excess, or in an indigestible form, they appear in the stools in form of yellowish-white lumps. This may result in either constipation or diarrhœa. It almost certainly results in colic, and in many cases in actual vomiting of large curdled masses of milk. There is no doubt that most of the vomiting of infants is best treated by diminishing the proportion of the proteids, and by administering them in such a form that their curd is fine and flocculent.

This naturally leads to the consideration of the peptonisation of milk, of which it may be said that as a temporary expedient it is valuable, but as a prolonged practice it is undesirable as tending to weaken the digestive powers of the infant. It is always advisable to peptonise each bottle of milk separately immediately before use. Each ounce of milk will require 10 minims of liquor pancreaticus (Benger), and 1 grain of bicarbonate of soda. If given at once it will not be necessary to boil the milk afterwards to stop the action of the pepsin.

There are many other preparations of humanised milk, both prepared by the dairy companies and by methods available at home, but the above are probably the most satisfactory, and at the same time the most simple.

The brands of condensed milk are so numerous that when one is asked to choose among them, the task is not easy. The fact remains, however, that they should merely be regarded as a temporary substitute for fresh cow's milk, for there is no question that the prolonged use of condensed milk is most undesirable. The explanation of the enormous consumption of condensed milk by our poor is not far to seek. It is cheap, it is easy to keep, and it saves trouble in preparation of the food. As to the first point, in nine cases out of ten the cheapness is arrived at by abstracting the fat for butter-making and other purposes, and thickening the residue with cane sugar.

Probably few are aware how many of the brands of condensed milks, especially those sold in the poorer quarters, are made from separated milk. The following list, which is taken from a report which appeared in the "British Medical Journal" for 1895, is a good illustration of this point. The investigator bought 17 samples of brands of condensed milk sold in poor districts. Thirteen of these were entirely made from skimmed (separated) milk, with an average of '66 per cent. of fat, 4 from skimmed milk with a little unskimmed mild added. These 4 had an average of 2·73 per cent. fat.

Advertisement is so rife in these days that it seems a pity not to give a list of these seductive milks. The attractive titles should be noted, and also the fact that not a few of those brands purporting to come from "the rich pastures of Switzerland" are actually made from Irish milk. Ireland appears to have exercised her native wit in inventing attractive and misleading titles. The "Sale of Foods" Act, unfortunately, while insisting on the statement on the label of the fact that the milk has been skimmed, has not specified that this statement shall be in print of an equal size as the attractive title, hence there is as great a disproportion between the two as there is between the percentage of fat in the particular brands in question and in a whole-milk brand.

LIST OF CONDENSED MILKS REPORTED ON BY THE "BRITISH MEDICAL JOURNAL," 1895.

Made from skimmed (separated) milk.

Shamrock	Fat	·79 per cent.
*Swiss Dairy	„	·63 „
Calf	„	·60 „
Cup	„	·49 „
Tea	„	·48 „
Wheatsheaf, best condensed milk	„	·62 „
†Marguerite, fine „	„	·42 „
Daily	„	·69 „
Gondola	„	·49 „
Clipper	„	·73 „
Goat	„	·56 „
Cross	„	·96 „
Home	„	1·02 „

* Made in Ireland.

† On the label "There being a small portion of the cream removed in the process of condensation, it is specially adapted for household purposes."

Made from skimmed (separated) milk with the addition of a small proportion of unskimmed.

As you like it	Fat	4·23 per cent.	...	60 per cent.	separated milk.
Cow brand	„	2·84 „	...	70 „	„
Nutrient	„	2·36 „	...	80 „	„
Handy	„	1·49 „	...	90 „	„

Of the better class condensed milks the following analyses* may be quoted:—

	Eagle brand.	Anglo-Swiss (Milkmaid). Prepared in Switzerland.	Anglo-Swiss (Milkmaid). Prepared in England.	Nestlé.	First Swiss brand, unsweetened.
Water	27·942	24·94	25·63	15·30	59·41
Fat	10·335	8·90	6·13	8·85	9·26
Casein	9·522	9·68	12·65	9·98	15·47
Sugar milk	50·861	13·29	12·50	13·62	13·62
Cane	50·861	41·24	41·21	50·08	—
Ash	1·340	1·95	1·88	2·17	2·24

Another set of analyses† yields the following averages:—

	Water.	Fat.	Sugar.	Casein.	Ash.
Condensed milks with cane sugar added	26·88	9·03	50·90	11·02	2·16
Condensed milks without cane sugar	62·33	10·75	14·31	10·51	2·24

Another analysis gives Nestlé's fat, 10·23 per cent. Other good brands are the Ideal brand of the Anglo-Swiss Com-

* Haehner's analyses quoted by Dr. Bostock Hill in Birm. Med. Rev., 1884; also Meig, "Infant Feeding and Milk Analysis."

† American Chemist, 1889.

pany, the Viking condensed unsweetened brand of the Norwegian Milk Condensing Company (10·27 per cent. fat), and the Sledge brand of the Bernese Alps Milk Company (both sweetened and unsweetened).

Note the effect of dilution on these milks, and compare the results with cow's milk and human milk:—

	1 part Nestlé's + 5 parts water.	1 part Anglo-Swiss + 4 parts water.	1 part First Swiss unsweetened + 3 parts water.	Cow's milk.	Human milk.
Water.....	85·88	84·98	80·85	87·50	87·30
Fat	1·47	1·78	2·32	3·50	4·00
Casein.....	1·67	1·94	3·87	4·00	1·50
Milk sugar...	2·28	2·66	3·40	4·30	7·00
Cane sugar...	8·34	8·25	—	—	—
Ash	0·36	0·39	0·56	0·70	0·20

There are several facts which stand out in this comparison. First, the unsweetened milks being much less condensed when diluted to such a degree as to bring them to about the standard of plain cow's milk as regards water, have a much better fat percentage than the sweetened milks. Secondly, the enormous proportion of cane sugar that is added in the sweetened milk, in the case of Nestlé's 50 per cent. Thirdly, the unsweetened milks contain more casein than the sweetened, and therein depart further from the standard of human milk when diluted. Lastly, that even in the better condensed milks, both sweetened and unsweetened, the fat is diminished to a half to two-thirds of the normal milk percentage. It is also obvious that the amount of water which should be added in diluting is much less than that recommended on the makers' labels.

One is tempted to ask: Is there such a thing as condensed milk from which some of the fat has not been abstracted? At any rate, it is evident that they are very poor foods for children as compared with unaltered cow's milk.

The "British Medical Journal" at the same time investigated a number of samples of milk bought from various London dairies in the districts of Marylebone, Westminster, Lambeth, and Battersea, chiefly those small dairies where poor people buy their milk. The result showed almost universal "treatment" of the milk, either by the addition of preservatives, such as boric acid, or by diluting the whole milk by the addition of separated milk, until the percentage

of fat was as low as was likely to pass the analyst if any investigation should take place.* Apparently the old cow with the iron tail has been replaced by a more scientific beast with a tail of the shape of a separator spout. It is clear that science has now been applied to dairy management in more senses than one.

The various infant foods next require consideration. They are so numerous that obviously no one can remember the composition of them all, but from the following analyses one can easily select the most suitable for the particular case. It is at once evident that hardly any of these foods, with the exception of those made from condensed milk, are suitable for use without the addition of cow's milk, and the condensed milk foods suffer from the same deficiency in fat and excess of sugar as the milks themselves. The farinaceous foods, such as Ridge's, are only suitable for older children, for whom they provide an expensive and not very satisfactory starch diet.

The principal infant foods may be classified as follows:—

1. Biscuit foods, made from condensed milk and baked wheat flour, partly dextrinised, containing a large proportion of insoluble starch. Examples: Nestlé's, Anglo-Swiss, Gerber's milk foods; Allen and Hanbury's first and second foods, Nutroa, Lactopreparata.

2. Malted or Liebig foods, made from malted wheat and barley flour, containing dextrines, dextroses, maltoses, and cane sugar (a little), altogether about 70 to 80 per cent. of sugars. Examples: Mellin's Food, Horlick's Malted Milk, Liebig's Food, Allen and Hanbury No. 3 Malted Food, Savory and Moore's Food.

3. Starch foods. In these the flour has been prepared by baking, by which a small proportion—under 10 per cent.—of the starch has been converted into sugar. Examples: Ridge's, Neave's, Hard's, Lactated Food, Imperial Granum, Carnrick's Soluble Food, Robinson's Patent Barley, Chapman's Entire Wheaten Flour.

* Fifty samples were taken; of these, 13 were genuine, 34 were sophisticated mostly by the addition of separated milk, 3 were genuine, but contained boric acid, and, in addition, 9 of the 34 diluted samples also contained boric acid. The average number of bacilli found was 500,000 per cubic cent., the most important and most frequently found of which was the bacillus coli communis.

ANALYSES OF VARIOUS INFANT FOODS.

Group 1.

	Nestlé's Food.	Anglo-Swiss Food.	Gerber's Food.	Allen & Hanbury's 1st Food.	Lacto-preparata.
Fat	5·48	5·02	4·75	13·15	12·35
Proteids	11·04	10·33	13·69	14·25	14·51
Soluble carbohydrates	45·57	43·51	75·72	65·48	63·68
Insoluble carbohydrates	29·95	33·55			
Salts	1·72	1·74	1·45	4·75	3·66
Moisture	1·50	5·85	4·39	2·37	5·80

Group 2.

	Mellin's Food.	Horlick's Malted Milk.	Liebig's Food.	Savory & Moore's Food.
Fat	0·31	2·66	1·34	1·08
Proteids	10·70	15·18	20·47	15·35
Soluble carbohydrates.	82·57	67·91	16·25	11·80
Insoluble „	—	—	*49·41	*65·48
Salts	3·20	3·34	3·01	1·92
Moisture	4·09	2·20	9·52	4·37

* The starch in these foods changes into dextrin when the food is prepared.

Group 3.

	Ridge's.	Neave's.	Imperial Granum.	Carnrick's Soluble Food.	Chapman's Entire Wheaten Flour.
Fat	1·11	–	1·04	*7·54	—
Proteids	11·93	12·3	14·13	10·25	11·9
Soluble carbohydrates	2·91	—	1·80	27·08	78·05
Insoluble „	77·96	82·94	76·11	37·45	
Salts	0·49	1·16	0·39	4·42	1·4
Moisture	8·58	3·6	8·38	3·42	10·05

* Mostly cocoa butter.

As to the period at which the use of some form of starch or altered starch becomes desirable, it is difficult to lay down a law, as children of the same age may vary so much in their development; but probably about the seventh month it is necessary to provide some such addition. One of the malted foods will probably be chosen, but owing to the large amount of sugar contained in them their use for more than two, or at the most three, months is probably not advisable, and then only twice or thrice a day, the milk being at the same time less diluted and the quantity of barley increased by the use of stronger barley-water.

At ten months fine oatmeal gruel may be used in the

place of the malted food, and some variety made by the occasional use of rusks, and by the end of the first year the child may begin to take starch in the form of well-boiled rice pudding, or a little arrowroot, but excess of cereals must be avoided.

From six to twelve months, or even from an earlier period, it will often be found advisable to give a little raw meat juice, in order to increase the amount of easily digestible proteid taken by the child. This can be made as follows:—

Mince finely a quarter of a pound of lean beef steak, add to this two tablespoonfuls of cold water. Stir well together, and leave them to soak for half-an-hour, cold. Then place the pulp in a piece of muslin, and twist strongly to squeeze out the juice. This must be made fresh daily, or even twice a day, as it does not keep well.

Of this one tablespoonful should be given at first in two successive bottles, as soon as made, but by ten months the child can take 2 ozs. in the day. Care must be taken that it is quite fresh, as otherwise serious poisoning may occur; and if added to the milk in the bottle, this must not be heated to such a temperature as to coagulate the albuminous juice.

In careful hands it is certainly far more valuable than any broth, beef-tea, or most prepared meat juices and essences, which consist almost entirely of extractives, and are merely expensive stimulants, not foods at all.

From 12 to 24 months is a dangerous period in a child's feeding. It is so common to find the necessary quantity of milk—some three pints per diem in the case of a full-sized child—replaced by various starchy substances, such as potatoes, cornflour, bread and butter, cakes, &c. As long as the amount of milk is maintained, some of the other substances are no doubt desirable; but they are to be regarded not as substitutes, but as additions. For the thin pap previously given, rice pudding, custard, and various other plain milk puddings, and a little bread and butter or sponge cake may be substituted. Meat juice, meat broth, gravy, or finely-pounded or scraped under-done meat, or a lightly-boiled egg, must be used in rotation. Fresh fruit is a very important article of diet, such as the juice of an orange, a small

quantity of soft baked apple, or prune pulp, and later on bananas are useful. There should be no stinting of the quantity of drinking water allowed, as the growing child is capable of taking up a very large amount of fluid, and if this be not supplied growth is certain to be retarded. By the end of the second year the child should be taking its food about five times a day, and the meals should be well defined, and the mid-day meal should be more substantial than the others.

It is needless to insist on the necessity for avoiding all tea and coffee and other stimulants in the diet of growing children. Fortunately it is not the custom in England, as it is in France and Switzerland, to administer coffee to infants of a few months old.

It is hoped that this plain statement of the quality and constitution of many brands of condensed milk and infant foods may be of some use to others, as I have myself found it extremely difficult to get hold of a comprehensive grouping and analysis of those in common use, and advertisement has such an enormous effect in influencing the minds of the public, and possibly also our own, that it is sometimes difficult to know what may safely be recommended and what may be unhesitatingly condemned.

RESULTS OF THE EXAMINATION OF BLOOD FROM PATIENTS DURING THE YEARS 1896-97-98 FOR THE TYPHOID REACTION.

By A. M. GOSSAGE, M.B., M.R.C.P.

During the past three years the blood of 263 patients has been examined in the bacteriological laboratory by Dr. Blaxall and myself for the so-called Widal's reaction. As the results of these examinations illustrate most of the advantages and disadvantages of this reaction when used for the diagnosis of enteric fever, they are worth tabulating and reporting. The culture of the typhoid bacilli used was an old one that had been kept growing in the laboratory by sub-cultures for several years. Of this culture sub-cultures were made about once a month, and from these sub-cultures beef broth tubes were infected as required. In the first 150 cases, in which there were only 27 of suspected enteric fever, the blood was diluted with 10 times the amount of a 24-hour broth culture of typhoid bacilli; in the later cases a first examination with a dilution of 1 in 10 was made, and then, if a reaction was obtained, further dilutions, 1 in 16 and in some cases 1 in 20, 1 in 30, and 1 in 40, were examined. During the last four months it has been our routine practice to examine the blood when mixed with both 10 and 30 times its amount of broth culture. Hanging drop specimens were examined from these mixtures under the microscope, a time limit of half-an-hour being fixed for the reaction to appear. Control examinations of the broth culture were, of course, always made to ensure that it was free from clumps and that the bacilli were actively motile.

In 122 cases there was no suspicion that the patients were suffering from enteric fever, nor had they previously suffered from the complaint. In 119 of these no reaction was obtained, although in a few instances small clumps were

formed, or there was some slight loss of the motility of the bacilli when the proportion of broth culture to blood was 10 to 1. In two cases, both of which had slight jaundice, a fairly well-marked reaction was obtained with dilutions of 1 in 10; but unfortunately higher dilutions were not tried. In one case a marked and typical reaction was obtained on every one of the several occasions when the blood was examined with dilutions from 1 in 10 up to 1 in 40. The patient was a girl, aged 20, who was admitted under Dr. Donkin with the history that she had been suffering for four weeks with fever and pains in the joints. On admission her temperature was still raised (101° F.), but fell to normal the next day, and remained normal. On examination disease of both mitral and aortic valves was found, but there was no swelling or tenderness of the joints. The disease was diagnosed as acute rheumatism, of which the patient had had several previous attacks. From the appearance of the girl, who was well nourished and not anæmic, it was extremely unlikely that her illness had been a mild attack of enteric fever, and this must be regarded as one of those rare cases where a reaction is obtained although the patient is not suffering, and has never suffered, from enteric fever. Several isolated cases of this kind have been reported by different observers, so that it must be acknowledged that the blood of some persons gives the reaction even in high dilutions without their ever having suffered from enteric fever. Whether this property of their blood is merely a temporary condition or lasts for a long time is at present unknown.

In 47 instances the patient was obviously suffering from enteric fever at the time of the examination of the blood. In every one of these a reaction was obtained, while the subsequent course of the disease confirmed the diagnosis in all cases. Five of these patients died, and post-mortem the typical lesions of enteric fever were found.

In 88 cases the blood was sent to the laboratory for the purpose of diagnosis, there being a possibility or a probability that the disease was enteric fever. A reaction was obtained in 34 of these. 32 out of these 34 were subsequently diagnosed as enteric fever by the physicians in charge, in two instances the diagnosis being confirmed post-mortem.

In the other two cases the diagnosis was regarded as doubtful from the clinical course, although both were regarded as probably cases of enteric fever. Both cases had fever lasting for three weeks, nothing being found on physical examination to account for the temperature. In 52 instances, where the blood was sent for the purpose of diagnosis, no reaction was obtained, in 45 of which the subsequent clinical course of the disease was not that of enteric fever, 7 dying from such diseases as tuberculosis, ulcerative endocarditis, meningitis, or pyæmia. The 7 other cases were diagnosed as enteric fever, or probably enteric fever. One patient, whose blood gave no reaction on the tenth day of the disease, died on the fifteenth day, the typical enteric lesions being found post-mortem. Two other cases diagnosed as enteric fever gave no reaction on the eighth and the fourteenth days respectively. The blood from the fourth case was examined several times, at least once during each of the first four weeks, without a reaction being obtained; the clinical symptoms were, however, fairly typical, 28 days' fever, enlarged spleen, and typhoid-like stools. In the 5th, 6th, and 7th of these cases the chief evidence of enteric fever was continued high temperature, which was not sufficiently explained by the physical signs, and hence they were diagnosed as probably enteric fever. In one of these cases the blood was examined several times without result; in another no reaction was obtained on the ninth day, the fever only lasting 11 days, while the last, who had prolonged high temperature with some lung consolidation, gave no reaction in the fifth week.

The earliest stages at which a reaction was obtained were the fifth day (two cases) and the sixth day (one case). By other observers the reaction has been obtained several times as early as the fourth day, and occasionally even on the second day. As a rule, however, no reaction is obtained before the seventh or eighth day, and not uncommonly cannot be obtained before the third week. Three examples of this late appearance of the reaction occurred amongst the above-mentioned cases; while in another case, in spite of repeated examinations, no reaction was obtained until the fourth day of a relapse. This occasionally late appearance

of the reaction explains its non-occurrence in several of the above cases of clinical enteric fever, where the blood was examined only once, and that before the third week. It seems, however, to be certain, although of very rare occurrence, that a patient can pass through an attack of enteric fever without it being possible to obtain the reaction with his blood. The case in which no reaction was obtained until the relapse affords especially strong evidence on this point, and a similar case has been reported by Thoniot and Cavasse. The latest reaction obtained was on the 104th day; while with several patients a reaction was obtained over 100 days after the onset of their illness. As these patients then left the hospital, and were not again examined, it is probable that their blood would have reacted for several more weeks. Quite commonly, however, during convalescence the intensity of the reaction was observed to diminish nearly to the vanishing point, although it had been marked during the disease. Two patients whose blood was examined two years and four years after the attack gave no reaction. By other observers the reaction has been observed to persist for several years in some cases.

The results then may be tabulated as follows:—

Total number of cases examined	263
Reaction obtained in	84
Cases proved by clinical or post-mortem evidence to be enteric fever in which reaction was obtained	79
(Of these 1 gave the reaction only during a relapse.)	
Cases regarded as probably, but not certainly, enteric, in which the reaction was obtained	2
Cases undoubtedly not enteric in which reaction was obtained ...	3
(2 of these with dilution of 1 in 10 only.)	
Cases undoubtedly not enteric and giving no reaction	172
Cases of clinical enteric, but giving no reaction	4
Cases that clinically were probably enteric, but gave no reaction...	3

From the above table it is evident that this reaction with the blood of patients suffering from enteric fever supplies us with an extremely useful and important symptom of the complaint. Like other symptoms it is not pathognomonic, but it is more constantly present than any other symptom of enteric fever except fever. A positive result, especially early in the disease, gives more valuable information than a negative result, and when obtained with high dilutions may be

regarded as almost pathognomonic. The absence of a reaction throughout the course of the disease gives evidence of value against the diagnosis of enteric fever, which may help considerably in clearing up doubts. An interesting example of the usefulness of the method was afforded by the outbreak of enteric fever last year at Clifton. By examining the blood, Dr. Davies, the medical officer of health, was enabled to diagnose the complaint, and to stop the epidemic quite early, doubtless by this saving several lives. It must be remembered that to get reliable results the examination must be conducted with proper precautions by a skilled bacteriologist, and that in using results obtained by the method for the diagnosis of an individual case due regard should be paid to its imperfections.

LOCAL INFLAMMATION OF THE BRAIN, WITHOUT SUPPURATION, FOLLOWING CHRONIC EAR DISEASE.

By W. G. SPENCER, M.S., F.R.C.S.

It is notoriously difficult to diagnose the existence of a cerebral abscess, and to localise its position, on account of the absence of signs. An exploratory operation has frequently to be undertaken on very slight positive grounds; the abscess has often been missed, or when one has been found, others or purulent meningitis have been afterwards discovered post-mortem. In the three following cases the patients were certainly very ill as a consequence of middle ear disease; they were observed long enough to exclude the existence of any other disease, and the previous examination and surgical treatment of the middle ear, antrum, and neighbouring temporal bone had not relieved. An excessively painful œdematous spot led to the application of the trephine. The brain bulged into the trephine hole, and on puncturing with a trocar the brain substances seemed softer than normal. No pus was found at the operation, and there was no more discharged subsequently than was to be accounted for by the wound and the several punctures of the brain. Yet the patients were definitely relieved by the operation, and recovered. The examination of the appended temperature charts with those of the pulse and respiration are in this respect very remarkable. No other explanation suggests itself than that the brain was in a state of local septic inflammation, but that it had not softened and broken down into pus. It is very difficult to exclude other diseases. A girl was admitted with a temperature of 104° F. There were no other obvious symptoms, but she had a purulent discharge through a perforated tympanic membrane. I at once scraped out the middle ear and antrum without finding

any foul pus, and there followed very little discharge from the meatus. But the temperature remained at 104° F. for the next ten days. The patient had no other symptoms, in particular no tender spot behind the ear. At the end of ten days some melæna occurred, and spots were found. It was before the introduction of Widal's blood reaction, but it became evident that the illness was typhoid fever. A second difficulty in such cases arises from the deafness which prevents the patient from understanding the proposed treatment whilst the previous pain has injured the nervous system, so that the patients may be highly neurotic or show even mental disturbance.

Case I.—E. B., aged 30, a needlewoman, from the country, was a special instance of the latter condition, so that the history of her previous illness and of her actual sufferings was most difficult to understand. She was admitted under Dr. Donkin, who carefully observed her before asking me to operate. The patient had had scarlet fever when she was three years of age, and since then had always had a discharge from the ears. Five years before she had had apparently an abscess below the right breast, which burst and discharged yellow, foul material. Eighteen months previously she first felt pain behind the right ear, at first like the "snap of a cord or string," and this had continued at intervals for six months. It then changed to a "feeling of something rising" or "throbbing" under the bone, followed by a swelling of the scalp over the base of the mastoid process. She suffered from general headache every week or fortnight, but had some pain in the temporal region every day. Sometimes the head felt as if it would burst, and this tightness was easily brought on by the heat of the fire falling on the right side, and faintness and sickness followed. She went to another hospital, where the right ear was scraped out through a semilunar incision, but the symptoms were not relieved by this treatment. She had lost 4 stones in weight during the last five years.

When I saw the patient with Dr. Donkin she was apparently very ill with septic cachexia. She was thin, had a yellowish earthy complexion, with a temperature which

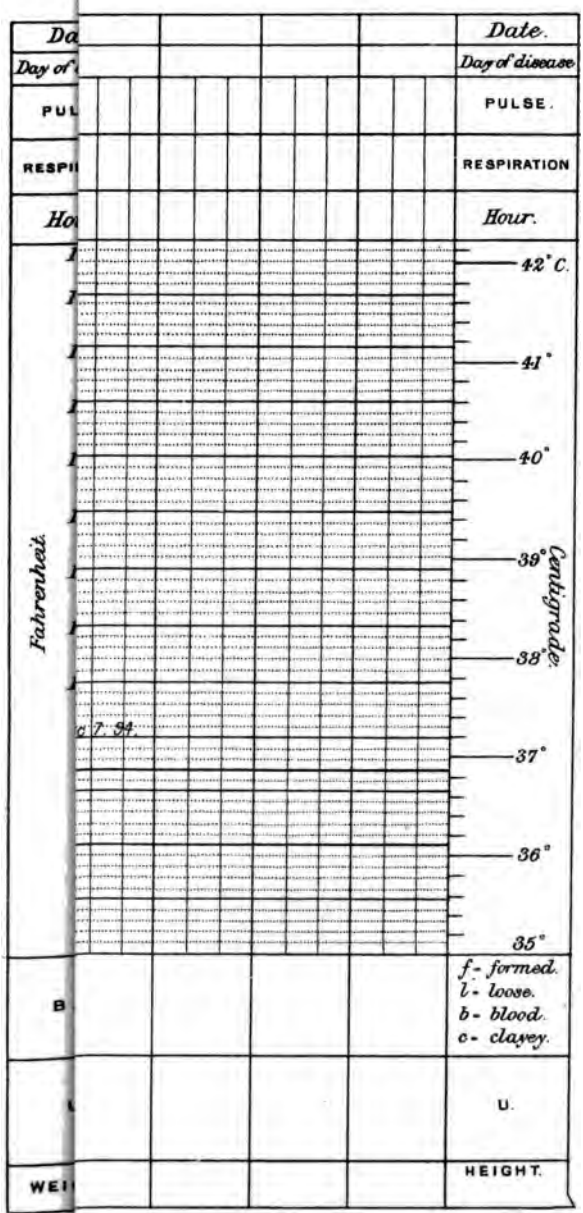
had been above 102° F. at night and a pulse of 90. With the right ear she could only hear a watch applied to her head, the meatus was narrowed by previous inflammation, and contained a little dried discharge. 1½ inch behind the meatus was a slightly œdematous spot, very painful to pressure, and the heat of the fire or of hot fomentations upon it could not be borne. There had been disease of the left ear, and a watch could only be heard at ½-inch distance. She had had pain on the left side also, but nothing very marked. Examination of the eyes showed that the discs and vision were normal. Whilst under observation the patient varied, but at times she looked haggard, was only semi-conscious, and moaning with pain; at other times fully conscious and with a good memory, but nervous as to what was going to be done. I operated by first of all exploring the antrum, middle ear, and lateral sinus through the scar of the former operation, but only met with healthy scar tissue and sound bone. I then removed a 2 cm. disc with a trephine, and exposed the temporo-sphenoidal lobe 1¼ inch behind and just above the level of the auditory meatus —*i.e.*, over the position of the tender spot. On dividing healthy dura mater, the brain bulged into the trephine hole; pulsations could not be seen, but could be felt. Explorations were made in several directions with a trocar and cannula to the depth of 1½ inch, without result. Not satisfied, I trephined over the lateral lobe of the cerebellum, which did not bulge, nor was anything abnormal found. The wound was sewn up. For the first two days there was some cerebro-spinal discharge, but this ceased on the third day. For the first week the patient was not relieved by the operation. She had as much pain as before, and there was great mental irritability. The sutures were then removed. On the 10th and 11th days the temperature rose, reaching 104·2°, and the pulse 106, the respiration never being more than 24. On the 12th day from the operation the wound gaped for ¾ inch, and a hernia cerebri formed in the trephine hole over the painful spot. A little pus and broken-down brain, not more than a teaspoonful or two, escaped, and the hernia was covered by healthy granulations, and pulsated freely. The general condition of the patient at once improved. She slept

and ate well, the temperature became normal, and there was only slight discharges from the hernia, which was painted daily with absolute alcohol, and she got up. Her mental condition did not improve. When asked, she would say that she had the same pains as before the operation. She disliked being seen eating, and would take her meals under the bedclothes. She wrote a letter to me saying that she was being poisoned. In consequence of her letters her brother came and took her away, seven weeks after the operation, contrary to advice, as the hernia, although very small, was not quite skinned over. Six months after the operation she visited the hospital in very good general health, looking quite fat. She had a pulsation but no protrusion at the site of the trephining. There was no discharge from the ears. She said her pains were as bad as before the operation, that she had been to several hospitals, but had been refused admission. She afterwards called several times at my house, and I was obliged to refuse to see her. It is clear that the patient returned to good general health as a consequence of the operation. That the improvement did not take place at once is to be attributed to my treating the operation as negative, and sewing up the wound, instead of inserting a strip of gauze. The trephining over the cerebellum was also unnecessary after finding increased brain tension under the painful spot. The long suffering with ear disease had undoubtedly aided in producing her mental condition, but there was probably also a congenital tendency. Her brother and other relations were a feeble-minded lot. Chart No. 1 shows the temperature, pulse, and respiratory variations.

Case II.—A married woman, aged 26, was admitted under Dr. de Havilland Hall. She had had scarlet fever when three years of age, and this had been followed by earache on the left side, which had continued until she was 18. On February 12th, 1895, she was seized with shivering and pain at the top of the head. On February 19th a purulent and very offensive discharge commenced, and continued, accompanied by pain in the head, back, and limbs. When admitted on March 4th her temperature was 104·8°, and on the 5th it rose to 105·4°; her pulse rate was 112. The right

Mercy Ward. Bed.

Nam al disease following Otitis Media purulenta.



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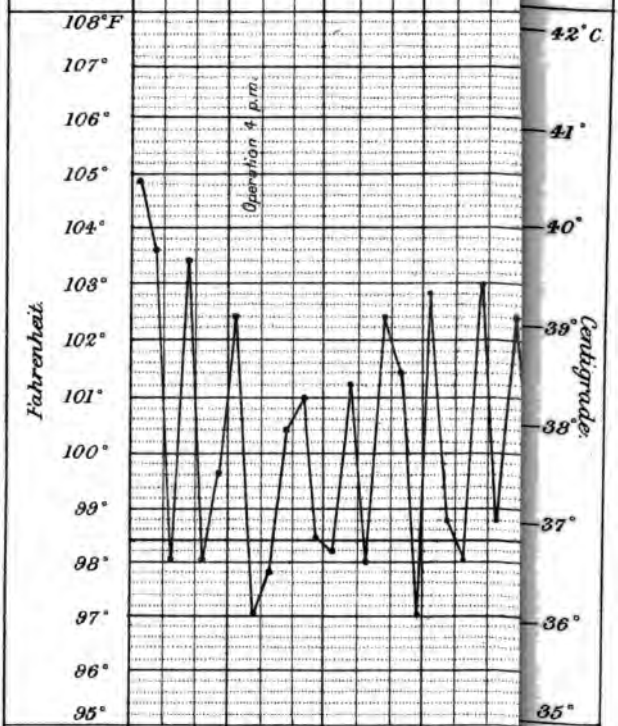
Name and Age of Patient Alice C.

Date.	4	5	6	7	8	9	10	11	12	13	14	15
Day of disease												
PULSE		112		116	120	112		120	100	108	124	100
RESPIRATION.												
Hour.												



B. O.				E•	•	E•	••		E•			E•
U.												
WEIGHT.												

ear and hearing were normal. On March 7th I scraped out the left middle ear and antrum through a posterior incision, and the ear was dressed and syringed frequently. The pain was not appreciably less. The temperature rose to between 102° and 105°, and the pulse varied between 100 and 120. The pain was not relieved by ice-bags, morphin, or antipyrin. The first dose of the latter seemed to do good, but not so the subsequent ones. The severe pain was always at the top of the head. The optic discs were normal; there was no vomiting. There was no markedly tender spot behind the ear. On March 16th, nine days after the first operation, I opened the groove of the lateral sinus, and punctured the sinus itself without finding anything abnormal. I then trephined over the temporo-sphenoidal lobe in the same position as in the first case. The dura mater was normal, but on incising it the brain bulged, and it was without visible pulsation, but pulsation could be felt. I punctured the brain in several directions, but no pus nor gas escaped, neither did the cannula give off any odour on being withdrawn. The lower part of the wound was not sutured, but dressed with gauze. On the next day, March 17th, she had recovered from the shock of the operation, and there was no pain. On the dressings were two teaspoonfuls of thick pus containing cells rapidly dividing and micrococci. She was partly deaf on the right ear, perhaps due to interference with the opposite brain. The above amount of broken-down brain material or pus was discharged daily. The temperature was irregular, but less than before the operation. On March 26th she was much excited by a visit of her husband and father. After March 29th the temperature became normal, the pulse still being about 110. On April 11th, the pulse had become 90. The patient recovered good health; there was normal hearing on the right side, and good conduction through the bones on the left. The wound healed, and formed a sound scar, leaving a pulsation at the site of the trephining, but no bulging. The discharge from the ear had become very slight. Chart II. shows the variations in temperature and pulse.

Case III.—J. H., a boy, aged 15, was admitted under Dr. Allchin on October 27th, 1898. There had been some dis-

charge from the left ear, but the date of commencement was uncertain. There was some dried-up discharge in the left meatus, and an old perforation of the membrane. There was no mastoid tenderness, nor pain, nor special head symptoms. The only symptom was fever. He had each day a rigor of a severe kind, lasting an hour, the temperature reaching on November 1st to 106°, starting from 98° F.; the pulse varied between 120 and 84, the respirations between 28 and 24. The tongue was furred and the breath foul; the stools normal. The discharge from the left ear was very small in amount. All signs of typhoid fever, including that yielded by the blood, were negative. In consultation with Dr. de Havilland Hall, it was agreed to explore the antrum. This was done on November 1st. Granulations were found both in the antrum and the middle ear, but there was no foul smell nor sign of necrosis. The lateral sinus groove and the middle cerebral fossa outside the dura mater were explored without finding anything abnormal. The wound behind the ear was sewn up. The patient was not benefited by this operation. On November 2nd there was a rigor, and the temperature went up to 106°. Another rigor occurred on November 6th, the temperature reaching 106·4°. Between November 11th and 15th the temperature in the evening was about 105°, the pulse 128 to 100, and the respirations 40 to 24. Meanwhile the patient's furred tongue continued, the bowels were constipated, the patient had an earthy look, and was wasting. He had a good appetite, and spent the day reading books and newspapers. The wound behind the ear healed, and there was practically no discharge from the ear. On November 16th a spot was found behind the left ear on the level of the upper border of the meatus, immediately in front of the occipital curved line, which was slightly œdematous and painful on deep pressure. There was no pain on firm pressure upon the bone around, nor on the opposite side. This observation was confirmed on the following two days, and hence I decided to trephine over this spot. On November 18th I first reopened and re-examined the old wound. No pus was found, and having sutured it, this wound again healed. I then trephined over the painful œdematous spot. The brain bulged into the trephine hole, but pulsa-

WESTMINSTER HOSPITAL. Date

Name and Age of Patient John H. ...lenta.

October November

Date.	27	28	29	30	31	1	2	3	4	5	6	...te.
Day of disease												...disease
PULSE						120 84	110 100	108 100	120 100	108 92	130 92	12 8 ...LSE.
RESPIRATION.						28 24	32 28	32	36 28	44 36	44 36	4 3 ...RATION
Hour.							6.30 p.m.				3.15 p.m.	...r.

Fahrenheit: 108°F, 107°, 106°, 105°, 104°, 103°, 102°, 101°, 100°, 99°, 98°, 97°, 96°, 95°

Centigrade: 42°C., 41°, 40°, 39°, 38°, 37°, 36°, 35°

Sponged. Sponged. Sponged. Rigor 8.25 a.m. Oct. 4 2.0 p.m. Rigor 6.30 p.m. Rigor 2.50 - 3.15 p.m.

B. O.	V.V. ••			E. E.								...med. ...ge. ...od. ...very.
U.	N			N	N							
WEIGHT.												...HT.

tions could be felt. I enlarged the trephine hole, and explored the brain with a trocar and cannula, with negative results. Then I sutured the wound, except for the hinder and dependent end, into which a strip of gauze was inserted. This operation was followed by an immediate improvement. On the day after the operation the temperature rose to 101·4°; on the next three days it reached 100°. After five days it became normal, the pulse then varying between 100 and 80. The discharge was at first cerebro-spinal fluid, afterwards very little and thin enough to be absorbed by the gauze. Whereas before the operation constipation prevailed, three loose motions occurred on the first and second day. On November 20th there was some pain and erythema in the joints of the right leg. On November 30th a small hernia cerebri formed, which was painted with absolute alcohol. On January 2nd, 1899, he was in good health. The hernia cerebri was very small, and almost covered by skin. There was a little thin discharge from the ear. He has been seen since in good health, the hernia covered over, and the discharge from the ear very slight. In this case there was one symptom only—the sudden elevations of temperature with severe rigors—whilst there were only non-odorous granulations in the middle ear and antrum, with no sign of disease in the groove of the lateral sinus, the sinus itself being patent. He was nearly a month under observation before trephining was carried out. No pus was found in the brain, nor was any definitely discharged by the wound. All that came from the meatus was thin pus in small amount.

Chart III. shows the temperature, pulse, and respiratory variations.

The remarkable point about these three cases is not the obscurity of the symptoms before the operation, but the recovery of the patients after what appeared to be such a small result, viz., the bulging of apparently healthy brain into a trephine hole under a painful and œdematous spot. Even this latter superficial indication was absent in Case II. During the five years over which these cases extend, I have operated in equally obscure cases, but with very different results, in one finding 1 oz. of most stinking pus, although the brain which bulged into the trephine hole looked normal.

This patient made an excellent recovery. Another obscure case had suffered for two months with irregular, sometimes maniacal symptoms, continuing after treatment of the mastoid antrum. I found marked softening and pus on the surface of the temporo-sphenoidal lobe. No definite improvement followed, fever with maniacal attacks continued, and death occurred some six weeks afterwards. No post-mortem was allowed. In another case pus was found in the temporo-sphenoidal lobe, and the child seemed to be making a good recovery. When nearly convalescent, meningitis suddenly supervened, and post-mortem was shown to have spread from the temporo-sphenoidal abscess which had been drained. The general tendency of the cases here described is to support exploratory operations, and this may be strengthened by mentioning an obscure case upon which a consultation was held one afternoon, and I decided to trephine early the next morning. The patient died suddenly at 8 a.m. from the bursting of a temporo-sphenoidal abscess into the cerebro-spinal lymph space.

FOUR CASES OF COMPOUND FRACTURE.

By W. G. SPENCER, M.S., F.R.C.S.

During the past year four exceptionally severe cases of compound fracture were admitted under me, in which, fortunately, the general injuries were not fatal, and a satisfactory recovery followed.

Case I.—Compound Punctured Fracture of the lower third of Femur, with Punctured Wounds of Cubital Space, Buttock, and Scalp.

The patient, a maid-servant, aged 20, was cleaning a casement window on the fourth storey of a high house by standing on steps, the two portions of the window being open inwards, when she pitched headlong out, without knocking off the pots of flowers on the window sill. She felt herself turning over and over, and then lost consciousness, recovering it again as she was being carried to the hospital. She was impaled upon the area railings with the head hanging downwards, her clothes were torn very extensively, and when lifted off blood came freely from all the wounds, especially from the thigh. When seen she was conscious, pale, and cold, but not pulseless. On the posterior and outer side of the middle of the left thigh was a rectangular wound about 6 inches in length, leading downwards, forwards, and inwards to a comminuted fracture of the femur at the junction of the middle and lower third. Communicating with this was a counter-opening one inch in length on the inner side of the lower third of the thigh, and just within this was a thin splinter 2 inches in length and $\frac{3}{4}$-inch in breadth, detached from the posterior surface of the femur. The wound had clearly been caused by a spike, as she was falling headlong, which had presumably passed in front of the femoral vessels and the sciatic nerve. No injury to these

structures was detected, nor were there any later signs. The bleeding which had occurred was muscular, perhaps from the anastomotic artery. After thorough cleaning of the skin and all the interior, and removing the splinter, there was no bleeding, and the wounds were sewn up except for a strip of gauze in the angle of the wound behind. The limb was placed on a Liston's splint, with weight extension. The second wound had been caused by a spike striking the left elbow when flexed, just behind the inner condyle. It had separated and driven forwards the projecting part of the condyle, with the muscles attached, towards a counter-opening in the middle of the cubital space. It had exposed without injuring the ulnar nerve, and had also passed in front of the vessels. After suturing the tubercle in position, both wounds were united. A third spike had entered the buttock over the ischial tuberosity, and had penetrated some two inches into the subcutaneous fat. This was cleaned, and a gauze plug inserted. A fourth wound had been caused by a spike penetrating the scalp in the region of the occiput, and running a short distance subcutaneously. After shaving and cleaning, a pad of gauze was applied. This patient, who was young and in full health, recovered completely. The wounds had healed and the fracture united in five weeks without shortening, and she was seen six months after quite well.

Case II.—Compound Comminuted Fracture of the Ulna, Dislocation of the Radius, Laceration of the Elbow Joint and Muscles, and Fracture through the Coronoid Process.

A man, aged 45, was inspecting the roof of a building when he trod on an insufficiently-fastened grating, slipped and fell down a long distance through a skylight. He was picked up with a severe injury to his left elbow. On examination he was found to have a compound comminuted fracture of the upper third of the ulna, the proximal end protruding, a compound dislocation of the head of the radius backwards and outwards, and an extensive laceration of the muscles in front of the elbow joint, which was distended by extravasated blood. The main artery, veins, and nerves seemed to have escaped injury. The two wounds, through which protruded

the head of the radius above and the fragment of the ulna below, were joined by an incision, which therefore laid open widely the elbow joint on the outer side. The fragments of the ulna, together with a splinter, still partly attached by periosteum, were united by silver wire, the radius was easily reduced, the elbow joint and surrounding cavities were cleared of blood clot and dirt, and then it was found that the biceps and brachialis anticus had almost been completely detached, and were retracted. The brachialis anticus tendon had carried away a small plate of bone, but certainly not the whole of the coronoid process. As there is much doubt about the fractures of the coronoid process, I draw attention to this instance. The muscles were partly brought down by sutures, but not satisfactorily on account of the extensive laceration. The wound was then sutured, except for a small gauze strip. The arm was kept fixed at a right angle, passive movement of the fingers and wrist being begun early. The wound healed except for a small sinus which discharged some pus. On exploring this and removing the separated fragment of the ulna and its uniting silver wire, recovery followed. He has now an elbow ankylosed at a right angle, but the arm is still weak owing to the laceration of the biceps and brachialis anticus. The usefulness of his left arm has been reduced by about half.

Case III.—Compound Fracture of the Middle of the Shaft of the Femur, with Protrusion of both ends, the Thigh being telescoped to nearly half its length, with great laceration of muscles.

A man, aged 48, was sent to repair a lift. Catching hold of a guy-rope and putting his weight on it, it gave way, and he fell down the well on to his knee. He was brought to the hospital very collapsed, having lost much blood. The shaft of the femur had been fractured just below the middle, and the upper end had passed downwards and forwards through the quadriceps extensor muscle, to protrude through the skin on the inner side of the patella, in doing so widely lacerating the knee joint. The lower fragment had been driven upwards and outwards through the muscles, and protruded through the skin about three inches below the great

trochanter on the outer side. By falling on the knee, therefore, and fracturing the femur, the thigh must have telescoped upon itself to something like half its length. On inserting the fingers into the wounds, the muscles appeared to have been so lacerated and mixed up with blood clot that the finger could be pushed in any direction except towards the inner side. Yet in this case also no injury to the large vessels or the sciatic nerve could be made out, neither at first nor later. The wound over the knee joint was enlarged, and all the joint freed from clot. The fractured ends could not be brought into position until after the division of the achilles tendon. No large fragments were found, and the smaller ones were so mixed up with the lacerated muscle that all could not be removed. Gauze plugs were inserted into both wounds, and a long outside splint and extension applied. No hæmorrhage followed. The wound over the knee healed well. Some suppuration occurred from the upper one, but being dependent whilst the patient was in bed, there was good drainage. From it later on came some small fragments, on one of which was the linea aspera. It was three months before there was any sign of union, and six months before he could go to a convalescent home. There was then firm union in a good position, with not more than $\frac{3}{4}$-inch shortening and some movement of the knee, but there was still a sinus leading from the upper and outer third of the thigh downwards and forwards towards the fracture, but no bare bone was to be felt at the end. After being at the home a fortnight he was attacked with erysipelas and superficial cellulitis in the thigh. He was brought back to the hospital, and free incisions were made. The knee joint had escaped, and so had the site of the fracture. He has again left the hospital, walking firmly on the leg with a knee movable through about thirty degrees, and the sinus at the back of the thigh about 1 inch in depth. His general health is now good. This is his condition after nine months' treatment, which may be compared with the alternative results of an amputation. He was so collapsed on admission and as hæmorrhage had ceased, I certainly think that a primary amputation was not sufficiently indicated. Afterwards I spoke to the man several times, and he expressed himself strongly against

amputation. I did not press it, for his general health was fairly maintained, and although there was suppuration, drainage was good, and there was no sign of extensive necrosis. The chief reason for amputation in this case was the danger of secondary hæmorrhage, which was watched for but fortunately never occurred.

Case IV.—Compound Comminuted Fracture of the Lower Jaw on each side, loosening, without displacement of both Upper Jaws and Nasal Bone.

A man, aged 44, was one of the injured in the fall of the building off Victoria Street. In the collapse he felt his face crushed on each side. He was brought in deeply cyanosed, breathing with great difficulty, and his face so swollen and bruised that his identity was for some time in doubt. He had a compound comminuted fracture of the lower jaw on each side in front of the angle. The central fragment was drawn down towards the hyoid bone. On drawing this forcibly upwards his breathing became easy. The fragments had penetrated the cheek on each side, on the one side external to the angle of the mouth, on the other at the lower border of the jaw. This latter on the right side communicated with a cavity in the cheek into which fragments of teeth and bone had been driven. Both upper jaws were quite loose, but had not been displaced; the nose could be also moved laterally, but was not displaced. Loose fragments and teeth were removed, and then wires were with difficulty passed in order to fix the fragments. The fixation of the chin relieved his breathing. The man had extensive general bruisings and abrasions, but no other severe injuries. The swelling of the face gradually subsided, and union took place slowly, several small fragments being discharged. About a month after the injury Mr. Glassington attempted to improve the line of the teeth after removing the wires, and with some success. The patient could not bear any chin bandage for the closure of the jaw. The result has been good union, with a receding slightly-depressed chin, owing to the loss of bone from the horizontal ramus on each side; there is also some irregularity in the line of teeth owing to the patient through-

out not being able to bear pressure upwards to oppose the depressor muscles.

All four cases had a remarkable escape from fatal injuries, and I have not seen or heard of previous instances of the tearing off a piece of the coronoid process of the ulna, nor of the distal end of a fractured femur being driven through the skin as well as the proximal end, nor of the proximal ends of the fractured lower jaw perforating the cheek. By cleansing as freely as possible with carbolic acid, 5 per cent., all the carbolic acid being afterwards completely washed away with boiled water, suppuration was confined around necrosing fragments, and ceased when these sequestra were discharged or removed. The fractures of the femur were treated by a long outside splint, and extension with division of the achilles tendon to prevent the lower fragment being drawn backwards. Extension must be increased in such cases until shortening has practically disappeared. A weight sufficient to counteract the muscles at first may become insufficient when the muscles recover their tone. Hence shortening may insidiously recur, and a fractured femur should be measured daily for the first week or so. I have had in two cases to apply an extension of 30 lbs. One case was that of a femur which had been treated by getting the patient up on crutches in plaster; there was shortening of 4 inches. Osteotomy was done, and the patient recovered with $\frac{1}{2}$ shortening. In another case of very oblique union, the patient slipped and re-fractured his thigh. He was also treated with the same result. Where such weight extension is used the foot of the bed must be correspondingly raised, and the patient is also prevented from being drawn down by braces under the armpits fixed to the bed-head.

CHRONIC ENLARGEMENT OF THE BURSÆ.

By A. H. TUBBY, M.S., F.R.C.S.

The forms of chronic enlargement met with are the simple, the tubercular, and the syphilitic, and certain forms of new growths may be included.

Simple chronic bursitis frequently follows acute, but more often is the result of occupation, as in housemaids, cobblers, tailors, and miners. Verneuil describes bursæ as existing over tumours, and Cruveilhier met with a large serous bursa between a mammary scirrhus and the pectoralis major. Pre- and peri-hernial cysts are often bursal in their nature. False bursæ are met with over the prominences in club-foot, and in bunion. The varieties of chronic hygromata are the cystic, proliferating, fibrous, and hæmorrhagic. A *cystic* hygroma is the most frequent, and corresponds pathologically with hydrarthrosis. It is sometimes bi-lobed in shape, but it is usually unilocular, rarely multilocular. The wall is composed of thickened fibrous tissue, cartilaginous in places, or incrusted with calcareous plates, and the bursa often lies in a fatty envelope, *cf. hygroma lipomateux de la nuque* in porters. The contents are either clear or opaque fluid of a yellowish colour, varying in consistence and containing many cholesterine crystals. Sometimes, however, the fluid is bloody or purulent. In the wall there are often large arteries present which may give rise to hæmorrhage. The *proliferating* hygroma is generally unilocular. The cavity contains a variable quantity of liquid, and has loose bodies floating in it which have become detached from the interior of the sac. Bodies, wart-like in appearance, are seen on the latter. They are sessile or pedunculated and composed of fibrous tissue infiltrated with cartilage, and sometimes with uric acid or phosphate of lime. The *fibrous* hygroma is met with, *e.g.*, in front of the knee, as a firm indurated mass, in the centre of which is found a little fluid. The *hæmorrhagic*

form is either the result of traumatism or the spontaneous effusion of blood. The fluid in the sac is thick and dark, or may consist almost entirely of clotted blood. Volkmann has described a very similar condition of the joints as *pachysynovitis hæmorrhagica.*

The symptoms of chronic enlargement of the bursæ are not difficult to recognise. A small tumour commences in the proper position. It is indolent, almost painless, fluctuating, and on pressure may be rolled under the hand, giving a feeling of fine crepitation. A fibrous hygroma is from the first hard and unyielding in character, while a hæmorrhagic hygroma has very few distinguishing characteristics. The course of a hygroma is chronic. It may disappear entirely, or it may undergo progressive sclerosis and contraction of its walls. The chronically enlarged bursa is liable to rupture, hæmorrhagic effusion, and suppuration. If it be subcutaneously ruptured, the fluid is absorbed by the tissues, but the cyst forms again.

Treatment may be carried out in two ways, either by obliteration or excision of the sac. In the early stages if the irritating cause be removed the bursa will often disappear, only to reappear when the cause is again at work. Counter-irritants are sometimes of temporary service. The obliteration of the sac is effected by an incision, and the application of pure carbolic acid, or by simple incision and stuffing the sac with gauze, so that it granulates completely. But excision of the sac is necessary in all forms of chronic enlargement of the bursæ of long standing, especially the proliferating and fibrous.

Tuberculous Bursitis.—This form was thought to be rare, but many cases which were published under the title of "fungous disease of the bursæ" are now recognised as tuberculous. The sites of the affection are the olecranon, the subdeltoid, the sub-ischiatic, the pre- and infra-patellar, the malleolar, the psoas, and the popliteal bursæ. The varieties may be designated as primary and secondary. There is no doubt of the existence of the former, as all the conditions are present in bursæ for the development of tubercle in suitable cases: exposure to injury, abundant fibrous tissue, and the peculiar synovial character of the lining wall of the sac.

The secondary variety is distinguished by its being associated with tubercle of the neighbouring joint. It is not necessary that there should be any direct communication between the synovial membranes of bursa and joint. Pathologically, three forms are recognisable: fungus hygroma, hygroma with melon-seed or rice-grain bodies, and myxomatous or mucoid hygroma. Of these the fungus hygroma is the most common type. At first the cyst is simply serous, and its wall is not thickened, but it soon becomes covered by small tubercles. This stage often escapes observation, but later granulation tissue forms and caseates, and pus is seen, so that the general appearance of the cavity is like that of tubercular synovitis. Tubercle affecting bursæ is not very active, as the results of inoculation into animals take a long time to appear. In the melon-seed or rice-grain bodied form of hygroma there is but little fluid. A large number of these curious bodies is present, and that they are truly tuberculous is shown by the results of inoculation (Nicaise, Revue de Chir., 1885). This tuberculous form is frequently met with in the large palmar bursæ, and used to be known as compound ganglion. The mucoid form of tuberculous hygroma has been described by Critzmann (Médecine Moderne, 1890, p. 638.) A cyst may be found filled with gelatiniform material, translucent, and red or yellow in colour. The nature of this material has been conclusively proved by inoculation. The symptoms are those of a slow chronic swelling, often with thick walls, and giving the impression of a solid bursa as the fluctuation is obscured. In the rice-grain form fine crepitations may be noticed. Unlike other bursæ, the more tuberculous a bursa grows the softer and more semi-fluctuating does it become, and this is a very valuable diagnostic sign. Eventually a fistula forms, but before that has occurred extension has taken place to bones and joints. The only permissible treatment is extirpation.

The *syphilitic* form is met with in the secondary stage of syphilis as the sub-acute serous form, and in the tertiary stage as the fibroid variety. The latter variety may occur as long as twenty years after the primary infection, and frequently follows an injury. The bursa

most frequently affected is the pre-patellar bursa. The progress of a tertiary syphilitic bursa is very slow, but ultimately the tumour becomes adherent to bone or skin, and ulcerates. The diagnosis is often difficult, as it may be mistaken for simple chronic hygroma, old hæmatoma, or nodes, and when it ulcerates it may simulate tubercle. Syphilitic bursæ are, however, very slow in progress, and when small readily yield to treatment. If of large size or ulcerating, they should be excised.

New Growths.—The innocent forms met with are fibro-enchondroma and myxoma. The latter has been seen by Chevasse three times. In one case the tumour had attained the size of a child's head, and was freely ulcerated on the surface. Fibro-enchondroma is comparatively rare. The diagnosis of these forms is by no means easy, and the removal is often undertaken not because their nature has been recognised, but because of their size. Malignant new growths are either sarcomatous or endotheliomatous. A sarcoma is either of the soft or round-celled type, or is of the rapidly breaking-down hæmorrhagic variety. With reference to the endothelioma, Döllinger has met with one case in a fistulous bursa of a woman, aged 58 years; and Mickulicz has seen a similar case. The softer varieties of new growths may attain an enormous size, and Ranke (Archiv fur Clin. Chir., 1886) has met with one 62 cm. in circumference. Their treatment is complete removal.

THE TREATMENT OF FRACTURED PATELLA WITH SEPARATION OF THE FRAGMENTS, BY THE OPEN METHOD OF WIRING.

By WILLIAM TURNER, M.S., F.R.C.S.

In dealing with fractures of the patella the first consideration on the part of the surgeon is to adopt that method of treatment which gives the patient the best and quickest result, and it is for this reason that in cases with displacement I advocate the open method of wiring the fragments in preference to any other.

In cases without displacement, where there are many fragments which are hardly appreciably separated, the obvious treatment is rest and no operation.

Advantages of the Open Method.

The subcutaneous method of wiring gives good results when the bones can be brought into accurate apposition, but I myself am in favour of the open method for the following reasons:—

1. The surgeon is working in the dark in the former, whereas he can see all and gets a good view in the latter.

2. It has been found in nearly every case operated upon by the open method, and certainly in every case that I have seen (now numbering about 20), that lying between the broken surfaces there is some dense fibro-aponeurotic tissue, from the torn fascial surroundings of the patella, as well as a large mass of blood clot. In the open method all this is removed, the surfaces brought into absolute apposition, thus allowing bony union.

3. The fragments are tilted forwards so that the two broken surfaces look downwards and forwards, and upwards and forwards respectively: produced probably by the mere

loss of continuity and the presence of blood in the joint cavity, and maintained by the traumatic effusion into the joint. When brought together subcutaneously in this position it is obviously difficult to get the edges of the cartilage accurately together, and this may lead to some chronic synovitis or adhesions in the joint.

4. In the open method the blood clot in the joint is removed, and the joint washed out; and a vessel found bleeding into the joint can be dealt with (as in Case II.). This tends to lessen the synovitis and the risk of adhesions.

5. If the bone is comminuted, the separate fragments can be dealt with in the open method, silk being used if the pieces are too small for the introduction of wire.

6. The union will be bony, whereas in the subcutaneous methods this is doubtful, and if it does occur, it takes much longer to form as the fibrous tissue between the fragments must be absorbed first, and it is doubtful if the wire can be safely removed.

7. Finally, there is the same risk of sepsis in both methods. Each converts a simple into a compound fracture, leading into and involving the largest and most important joint in the body.

Contra-indications.

Now what are the contra-indications to this open method? I know of none, except those which will prevent any operation save such life-saving ones as tracheotomy and those for extravasation of urine, strangulated hernia, and intestinal obstruction: these contra-indications being especially old age, cardiac or lung trouble in an advanced stage, albuminuria and diabetes, all of which add to the danger of the anæsthetic rather than of the operation itself.

How soon after the accident shall the operation be performed? There is a great difference of opinion on this point among surgeons who advocate this operation, many of them preferring to wait for at least five days and often for a week until the bleeding has quite ceased and the synovitis has quieted down. Another advantage of this wait is that in an alcoholic subject delirium tremens is less likely to develop after the operation. In favour of the operation

being performed directly (*i.e.*, in the first six hours) it may be brought forward that the operation and the original accident really act as one trauma to the joint, the shock of the accident not being, as a rule, severe; the bleeding is stopped early, there is less damage done by the extravasated blood, there is comparatively little wasting of the thigh and leg muscles, and the patient saves one week in his convalescence. Briefly, then, these points may be summed up as follows:—

If the patient is a good healthy subject, do it at once.

If he is not, then wait.

Treatment before Operation.

If the operation is not performed at once, the patient is put in bed and absolute rest enforced by the application of a long back splint, the leg elevated nearly to a right angle to the body, cold applied to the joint by means of Leiter's tubes, evaporating lotion or ice, and the patient's general constitutional condition attended to in the usual manner. As a rule, there are no complications to treat during this stage, except occasionally alcoholic delirium.

Operation.

The limb is carefully shaved from the junction of the upper with the middle third of the thigh to the ankle, and purified in the usual manner with soap and water, turpentine, and 1 in 20 carbolic acid lotion, when possible three hours before the operation.

Preparations are made so that continuous irrigation can be maintained throughout the operation with 1 in 4,000 perchloride of mercury lotion, and one assistant is told off for this duty only.

The anæsthetic is then administered, and the limb repurified as above, and the strictest antiseptic precautions being taken throughout, the operation is commenced by

The Incision.

A semi-circular incision is made about four inches long on the outer side of the joint, about three-quarters of an inch

outside the outer border of the patella, and the flap of skin and subcutaneous tissue turned inwards, thus exposing the fracture.

I prefer the external incision because—

1. The wire is not under the scar,
2. The scar is not knelt upon,
3. It does not stretch with the early movement of the limb,
4. It does not become adherent to the ligamentum patellæ, or head of the tibia, and
5. The risk of localised gangrene is very remote.

The pre-patellar bursa is turned in with the flap, and so avoids injury; all bleeding vessels are ligatured; the blood clots between the fragments and the torn ligaments on either side are then carefully sponged away, and the joint thoroughly washed out. The edges of the bone are then examined, and all fibrous tissue adhering to them removed, and the route of the wire is then determined.

Wiring the Fragments.

As a rule, in a transverse fracture, one wire introduced in the same manner as a Halsted's stitch, the loop being at the apex of the bone, and the twist or knot at the upper part on one side, answers well. The order of procedure is as follows:

The periosteum is first incised down to the bone along the superficial route of the wire, so as to completely imbed the wire when it is made fast. The holes for the wire are then drilled in the fragments; in the upper, downwards and backwards from the upper part of the anterior surface to the posterior part of the broken surface, just in front of the articular cartilage; and in the lower, from a corresponding spot on the broken surface, downwards and forwards nearly to the apex of the bone. This is done twice in each fragment at equal distances from the middle line of the bone. It is very important that the articular cartilage should not be injured, and that no part of the wire should enter the knee joint.

The wire is then introduced so that the centre of it, or loop, lies in front of the lower fragment, and the two ends come out on the anterior surface of the upper fragment. The loop is fixed in position, pulled quite tight, and carefully

imbedded and covered up by periosteum as described above. Then the ends of the bone being free from blood clot, &c., the upper fragment is slowly pushed down by an assistant, the wires being kept tight by the operator; when the surfaces are accurately in apposition, the wires are tightened up by holding the ends with sequestrum forceps, and are then bent to meet one another. They are fastened by twisting them one on the other two or three times. The wire often breaks at this stage, usually from being twisted when too tight. The best position for the knot thus formed is just over one of the holes in the bone. The ends of the wire are then cut off close to the twist, and the whole knot is well and carefully imbedded in the fibro-ligamentous tissue over the patella, and then hammered gently in until it can hardly be felt by the finger. With a little care and practice this knot can be easily covered completely in so that it cannot be felt through the skin afterwards.

The size of the wire usually used is No. 7.

A few small catgut stitches are, if necessary, introduced to sew up the torn capsule on either side of the bone; and then, all bleeding having ceased, the cutaneous flap is replaced in position and stitched by a continuous suture. No drainage is allowed for. The wound is dressed with gauze and wool, and a bandage applied firmly to prevent the occurrence of subsequent oozing. A back splint is applied outside the bandage, and fixed with another bandage in the ordinary way.

The anæsthetic is now stopped, and the patient put back to bed, the end of the bed being raised by means of blocks.

After-treatment.—This is all-important, and briefly in an uncomplicated case may be stated as follows:—

NOTES OF AFTER-TREATMENT.

1st Day: Leg elevated nearly at a right angle to the body by means of a sling from the head of the bed. This position tends to lessen effusion and relieve pain. Morphia if necessary.

2nd Day: Leg brought down a little, not lower than the angle of 45°.

3rd Day: Leg lowered to about angle of 35° with bed.

4th Day: Splint removed. Leg up on two pillows.

5th Day: Pillows removed, and patient commences to move the limb in bed with dressing on.

10th Day: Stitches removed. Collodion dressing applied. Patella moved laterally.

11th Day: Knee bent nearly to a right angle.

12th Day: Allowed to stand with two assistants.

13th Day: Walks with two assistants.

14th Day: Walks round the bed unaided.

21st Day: Leaves the hospital.

Six weeks: Goes upstairs.

Three months from accident starts ordinary work.

Complications.

The complications that may be feared are:—

1. Sepsis. This leads to disastrous results, namely, acute arthritis of the knee joint, perhaps even necessitating amputation of the thigh, or at best to ankylosis of the joint. I have just had the misfortune to excise a knee for a case of this sort, sepsis having occurred after the operation of wiring, the patient coming to me for the first time with an ankylosed knee in a semi-flexed position. Lord Lister, in advocating the open method, once said: "No man is justified in performing such an operation unless he can say with a clear conscience that he considers himself morally certain of avoiding the entrance of any septic mischief into the wound."

2. Adhesions in the joint, giving rise to pain on movement, which is limited thereby, and liable to cause recurrent attacks of synovitis. This is specially from movement being started too late, and from the existence of some injury to the joint beyond that of the patella only.

3. The superficial part of the wire, and particularly the knot, may cause pain and irritation of the skin over it, and may lead to ulceration or the formation of an adventitious bursa over it, and may determine the removal of the wire. Kneeling on the wire may produce the same effect.

4. The scar may involve some of the numerous nerve endings in this situation, and so lead to pain and tenderness.

Thus it will be seen that with due care before and during the operation, and in the after-treatment, these complications

can be avoided almost to a certainty, and the patient able to go the round of his daily life in comfort with the leg as good as it was before the accident.

Below are the notes of three of my cases with a few remarks:—

CASE I.—W. S., aged 39, a coal-porter, admitted May 4th, 1897, two hours after the accident. He had slipped, and trying to save himself with his left leg, fell on to his left knee. On admission there was much swelling of the left knee joint, and the patella was fractured just below the centre.

On the 10th the operation of wiring was performed. The incision used was the same one as commonly used for excision of the knee joint, and the flap turned upwards. Much blood was extravasated into the joint, a curtain of fibrous tissue was found covering the broken surfaces of the bone, and the joint was full of blood clot. The fragments were separated one inch. The blood clot and fibrous tissue were thoroughly removed, and two wires introduced on either side of the middle line, an attempt to fasten a single wire with the loop below proving unsuccessful owing to wire breaking. The wound was dressed in the ordinary manner, a back splint applied, and the leg elevated.

14th: Leg lowered.

16th: Splint removed and movement allowed.

19th: The wound was dressed, and the stitches removed. The incision was found to gape a little in the centre, which became more marked on flexing the knee to a right angle.

31st: Patient got up, and walked round the bed with the aid of a crutch. The thigh muscles were found to be very much wasted. The scar is very much stretched, and adherent to the head of the tibia and ligamentum patella, causing unsightly deformity.

June 2nd: Discharged walking quite easily.

CASE II.—W. F., aged 41, coal-porter, admitted November 25th, 1897. Left knee cap broken by muscular action; no injury to the bone; much swelling about the joint. On admission about one inch separation of fragments. Operation the same day. Five hours after admission an internal

flap was made, and a similar condition to Case I. was found, but as well a large blood-vessel pumping into the joint on the inner side of the patella, which was at once secured. A single wire was passed in the same way as a Halsted's stitch. Dressing and after-treatment same as in Class I. On December 6th, wound dressed; aseptic; stitches removed. A small slough was found at the upper angle of the skin flap. The movement, active and passive, was excellent.

December 9th: Patient walked round the bed without help; the slough was dry, and beginning to separate.

23rd: The slough not quite separated. Discharged from hospital with a dressing on. Movement perfect.

Case III.—W. G., aged 45, dock labourer, admitted 19th November, 1898, at 9.15 a.m. He fell backwards, and in so doing hit his right knee on a truck in front of him, fracturing the right patella. He was taken straight up to the hospital, and on admission there was no swelling of the joint or external sign of violence. The two fragments were separated about three-quarters of an inch. The limb was washed with soda and turpentine, and 1 in 20 carbolic acid lotion, and an ice-bag applied over the joint.

At five o'clock same afternoon the operation was performed. The external incision was used, and the fragments wired by two wires, one on either side. Wound dressed as before.

24th: Splint removed.

29th: Stitches removed. Collodion dressing.

December 1st: Passive movement. Flexion to a right angle.

3rd: Got up.

8th: Discharged. Perfect movement.

Remarks.

In Case I. the operation was performed on the 6th day, and in consequence the wasting of the thigh muscles was very marked, and he was in hospital 28 days. The incision used was the same as for excision of the joint, and the early movement, which I think is most essential, caused the scar to gape, and made it in the end unsightly.

Case II.—Here the inner semi-lunar flap was used, and perhaps may have been carried up too far, as a small portion of the upper edge died from want of nutrition. This was unfortunate, and kept the patient in hospital one week longer than necessary, as his movement and the power of the muscles was excellent even as early as the 10th day.

Both these patients commenced their hard coal-porters' work in the docks before the end of the third month from the accident, and found no inconvenience. About three months ago the first patient fell again on his knee. The bone did not give way again, but a slight attack of synovitis followed, which rapidly cleared up on resting it, and he is now doing his work as before.

Case III.—This case is typical of an uncomplicated case treated in the manner I have described above, except that two wires were introduced instead of one.

This patient is now, two months after the accident, going about as usual.

My friend Mr. Watson Cheyne tells me that he is now using in these cases a semi-circular incision, with convexity upwards, about an inch above the patella, and the flap turned down, and that he has had no trouble as mentioned in Case II. above. He also tells me that he prefers to use no splint at all after the operation, but keeps the leg still on a pillow by means of sand-bags.

TWO CASES OF SUBDIAPHRAGMATIC ABSCESS WITH REMARKS.

By E. PERCY PATON, M.S., M.D., F.R.C.S.

J. P., male, aged 14, an assistant cabinetmaker, came under my care on January 15th, 1897, with the history that he was quite well till Saturday, January 9th, 1897, when he was suddenly attacked with pain in the upper part of the abdomen, and vomited several times; this pain had continued ever since, only had been more general over his abdomen. He had had some diarrhœa. The pain had confined him to bed. Previously he had been in good health, had had no serious illness, and no injury.

On examination when first seen, his abdomen was full and tender in the epigastric and both hypochondriac regions, but nothing abnormal was to be felt. The breathing was thoracic; nothing abnormal could be found in the lungs; no typhoid spots. Temperature, 100°; pulse, 104. Nothing characteristic about the stools. For the next day or two his condition remained practically the same; but on January 19th it was noticed that there was some dulness at the base of the right lung in front, and his temperature touched 101°. As it was thought that this was probably fluid, a needle was inserted, but only a small quantity of blood was withdrawn.

January 21st.—The boy's condition seemed distinctly worse; his tongue was getting dry, and his pulse more rapid. A swelling was now felt in the right hypochondrium about the size of an orange, continuous with the liver area above. The skin over the swelling seemed doubtfully œdematous, and the swelling itself was dull to percussion. An incision was made vertically down from the tip of the ninth costal cartilage through the abdominal wall. This at once let out some very foul-smelling pus from a cavity formed by matted intestines and stomach below, and the under surface of the liver above. No cause was found for the suppuration,

and a tube was inserted. Considerable improvement followed the operation, but this was not maintained; and on January 23rd, the boy's general condition being worse, it was found that there was a patch of dulness at the right base, about as wide as a hand's breadth, having a convex upper border, its highest point being in the mid-axillary line. An exploring syringe showed this to be pus. The liver dulness, however, was not below the rib border. A piece of the ninth rib was therefore removed over the swelling, and after going through some thick tissue, about a pint of very foul pus was let out. This was at first thought to be the base of the pleural cavity, but it was found, on further examination, that the pleura had not been opened, but the diaphragm had been cut through, the pus lying between it and the liver. No connection could be found with the former incision, which was now discharging very little. A tube was put in, and some iodoform emulsion to overcome the fœtor, which was very great.

A few days later the patient was much better, and continued to improve until February 3rd, when his temperature, which had been coming down, went up to 104°. Next evening the boy was much worse; his temperature was 104°, his pulse 160, and his respirations 54. It was also noticed that the line of dulness at the base of the chest on the right side, which, since the last incision, had sunk almost to its normal level, had begun to increase again behind. An exploring syringe showed this to be due to a collection of foul pus, which was not being drained by the previous openings. A further piece of rib was therefore removed posteriorly, and the pleura incised, when it was found that the lung was universally adherent both laterally and over the diaphragm; but on breaking down some of these adhesions, foul pus escaped from between the diaphragm and lung. No opening, however, could be found through the diaphragm. A tube was put in and dressings applied. Much relief followed, but on February 6th the boy was attacked with a violent fit of coughing, and coughed up about 5 ozs. of thin, foul-smelling sputum, almost fæcal in odour. Three similar attacks occurred on the 9th, 10th, and 15th, from 3 to 6 ozs. of the most fœtid sputum being coughed

up on each occasion. He continued, however, to hold his own, though his pulse rarely fell below 120, and was usually between 130—140. As he continued to go down hill, it was determined, on the 18th, to see if the source of this fœtid fluid could be reached. The posterior wound was therefore enlarged by cutting away more rib; the lung in its deeper part was found very friable, and was gradually broken down with the finger, releasing some stinking, frothy fluid. The cavity from which it came was in the substance of the lower lobe of the lung, and seemed to be in free communication with a bronchus, as air came through freely. It was so deeply placed that the finger could only just reach it. A long strip of gauze was packed in, and the wound dressed.

The subsequent history of the case presents no special points of interest. The gauze was taken out and renewed every day, and within a few days the boy began to distinctly improve, and though the convalescence was prolonged, he went home well, with all the wounds closed, on May 7th, 1897. He has since been seen several times in perfect health, except for a little giving of the abdominal scar, for which he wears a truss.

C. S., female, age 64, married, came under my care on May 17th, 1897. Her history was that she had been taken ill a month previously with pain in the left hypochondriac region and occasional sickness. A week before I saw her a swelling had been noticed in this situation, which was increasing. She had suffered a good deal from dyspepsia for the past three years. On examination a fluctuating swelling was to be seen, and felt, just below the rib margins on the left side. The skin over it was slightly red and œdematous. The temperature was 101°, and of a suppurative type. A vertical incision was at once made over it, letting out some stinking pus from a cavity which was bounded by matted intestines below and the diaphragm above. No cause for the abscess was found, but very little attempt was made to find one for fear of breaking down the adhesions which formed the wall of the sac. A tube was put in, and the wound dressed. Very little pus was subsequently discharged, and the wound closed rapidly; and except for a slight attack of dry pleurisy, nothing noteworthy occurred. She went

home well on June 16th. She has been seen recently (Jan., 1899), and although still suffering from dyspepsia, has had no further trouble with her abscess.

Remarks.—Cases of subdiaphragmatic abscess are not very common, and when they occur can usually be traced to some such cause as abscess or hydatids of the liver, gall-bladder trouble, gastric or intestinal ulceration or malignant disease, or to some more remote cause of suppuration such as appendicitis.

In the second case detailed, it seems possible that the abscess resulted from a local perforation of gastric ulcer, the area of extravasation having been previously shut off by adhesions. The woman had long suffered from dyspepsia. Malignant disease may be dismissed in view of the fact that the patient gradually improved, and is still alive, and fairly well (February, 1899), and there seems no other likely cause. In the boy there is no evidence as to how the trouble originated. No history of injury could be obtained, nor of any previous illness, and all that one can say is that such a case is possibly comparable to the cases of acute osteo-myelitis which occur not unfrequently without any obvious cause. Suppurative inflammation of serous membranes arising in this way are, however, by no means common. Unfortunately no examination of the pus was made with a view to determine if the bacterium coli played any part in the case.

One or two points of interest are worth referring to in this case. One is the fact that in spite of a large collection of pus between the liver and diaphragm, contrary to what might be expected, the liver was not at all pushed downwards. This, however, is what is commonly found in these cases, and the explanation has been offered that the diaphragm probably becomes involved in the inflammatory process, and thus becomes palsied, or partially so, and consequently gives to the pressure of the pus from below (see Herrlich, Deut. Med. Woch., 1886). This "giving" of the diaphragm results in the upper limit of the area of dulness at the base of the chest often having a markedly convex outline, which is somewhat typical of a subdiaphragmatic, as against a pleuritic, collection of fluid, and was well shown in the first of the above cases. Another point of interest is the

secondary production of an empyema without, apparently, any perforation of the diaphragm, this empyema going on to gangrene of the lung, and yet finally recovering, although, according to Gee, these cases always die if gangrene of the lung occurs (see Clinical Journal, 1894). A practical point may be referred to here, namely, that it seems much better to insert a gauze drain into any lung cavity in such cases as these in place of a drainage tube, as the latter very frequently gets forced out when the patient coughs, however skilfully it may be fixed in, whereas with a strip of gauze this is much less likely to be the case.

In neither of these cases was gas mixed with pus, as so frequently occurs in subdiaphragmatic abscesses. When present, the gas may be derived either from one of the hollow viscera (such as the stomach) with which the abscess is in connection, or the gas may have been produced by micro-organisms present in the abscess itself; in any case it very much masks the physical signs, leading to loss of liver dulness and other altered percussion signs, and may easily cause the case to be confused with one of basal pyopneumothorax. Much assistance may in these cases be derived from noting the outline of the dulness, the displacement of the heart (which is much more likely to be present in pleural, though it is not necessarily absent in subdiaphragmatic cases), and the presence of a succussion splash which is usually absent in pus and gas collections below the diaphragm. In any case of doubt, if it be decided to drain the fluid through the chest wall, the greatest care should be taken, if the pleura is opened and found normal, to carefully stitch the pleura lining the ribs to that covering the diaphragm, and if possible to wait till adhesions have formed between them before opening the abscess, so that as far as possible the risk of contaminating the general pleural cavity may be avoided.

FORMALIN AS A DISINFECTANT.

By HENEAGE GIBBES, M.D.
Health Officer, City of Detroit, Michigan, U.S.A.

The use of sulphur in disinfecting houses after contagious diseases having proved unsatisfactory, owing to the amount of damage done in many cases, and more especially from the frequent recurrence of diphtheria and scarlet fever in houses which were considered to be thoroughly disinfected, I was led to try a number of experiments with formalin. In the first place, I found that it had no deleterious effect on fabrics such as silk, velvet, plush, or leather; it did not affect the most delicate or expensive wall-papers, and it did no damage to the articles found in ordinary rooms.

In the second place, it destroyed all forms of bacteria with which it came directly in contact, and to a certain extent it was able to penetrate into cultures, so that by a judicious arrangement of the articles to be disinfected, it was possible to destroy all germs.

I found that all the apparatus devised for generating the gas either in the room or by a tube through the keyhole were failures; in some cases they could not be depended on; but the simplest method, as is often the case, proved to be the best. I measured a room in the Health Office, and used it for experiments, and I found that five ounces of a 40 per cent. solution of formalin would thoroughly disinfect a room of 1,000 cubic feet capacity in five hours; this is the minimum as to solution and time, and I generally instruct my disinfectors to use a little more of the solution and leave the room closed for a longer period if possible. The manner in which it is used is very simple. In the first place, all windows and doors, except one, are closed as tightly as possible; one or more ordinary bed sheets are hung across the room on lines, according to the amount of cubic feet to

be disinfected. The required amount of solution is put into a bottle, and the disinfector throws it quickly on the sheet or sheets, and close the door; this must be done quickly on account of the intensely irritating fumes. After the room has been closed for the proper time, the windows and doors are opened, and in a short time the vapour is dispersed and the room is again habitable. It is best to open a window from the outside if possible, and a door opposite; in this way the draft created soon clears the room. I find it necessary to give the disinfectors rubber gloves to wear, otherwise an acute dermatitis is often set up.

I have now used this substance constantly for about nine months, and have not had a single recurrence. It has been used in cases of diphtheria, scarlet fever, and small-pox. It has been used in private houses, large schools, the county jail, and in the small-pox hospital. In cases of diphtheria and scarlet fever one disinfection is all that is required. In cases of small-pox, I always disinfect twice, and leave the disinfectant for twenty-four hours each time, and I have proved conclusively in a number of cases that the disinfection was perfect. I have found that I can thoroughly disinfect our large small-pox hospital by two fumigations with formalin, followed by a careful scrubbing of the floors and wood-work with a strong solution of corrosive sublimate.

In disinfection of the person where any one has to be let out of a quarantined house, or in the case of undertakers and their men, also in the case of myself and inspectors when we visit small-pox cases, I have found a 4 per cent. solution of formalin used in an atomiser, followed by a careful wash of the head, face, and hands, has prevented any of us from catching either of the contagious diseases to which we are constantly exposed.

It is necessary to have the formalin solution tested to see if it is of the required strength, as different samples vary very much, and the results I have mentioned can only be obtained from a solution of full strength, that is 40 per cent.

ANTITOXIN IN POST SCARLATINAL DIPHTHERIA.

By J. L. HAGUE, B.A., L.R.C.P.

The aim of this short paper is to emphasise, from an experience of over 800 cases, the beneficial results of antitoxin in the treatment of diphtheria. The general question may be more fully studied in the annual reports of the Metropolitan Asylums Board, and in the interesting papers by Dr. Goodall which lately appeared in the "British Medical Journal."

At the Northern Fever Hospital, Winchmore Hill, where I have been resident for some years, as many as 5,000 cases of convalescent scarlet fever are treated annually, and it is to cases of diphtheria arising amongst these that my figures refer.

The very high mortality of post-scarlatinal diphtheria was well known, and has been often insisted upon; and before the year 1895 our cases were no exception to the rule. Thus during the three years 1892-3-4 there occurred 119 cases, with 75 deaths, or a mortality of 62·1 per cent.

In 1895, the first year in which antitoxin was used, there occurred 119 cases (*i.e.*, exactly as many as in the three preceding years), furnishing 4 deaths, or a percentage mortality of 3·3. This may be put in tabular form for the sake of more vivid contrast:—

Years.	Cases.	Deaths.	Mortality per cent.
1892-3-4.....	119	75	62·1
1895.....	119	4	3·3

In the year 1895 the dosage was empirical and tentative; antitoxin was administered only in cases of moderate or considerable severity, and only in a minority of cases on the first day of the disease. We shall see from the figures of subsequent years that *pari passu* with increased dosage and earlier administration went a still further reduction of the mortality.

In 1896, when the antitoxin was given in larger doses, and as soon as possible after the occurrence of symptoms, there were 261 cases, with 5 deaths.

In 1897, 267 cases, with 3 deaths.

In 1898, 169 cases, with 2 deaths.

Thus in the four years which have elapsed since the commencement of the use of antitoxin 816 cases of post-scarlatinal diphtheria have occurred, with 14 deaths, or a mortality of 1·7 per cent. But of these 14 deaths 5 were due to subsequent attacks of measles or other diseases quite unconnected with diphtheria. So that we may fairly subtract these, and tabulate the figures thus:—

Years.	Cases.	Deaths.	Mortality per cent.
1892–3–4..... (no antitoxin)	119	75	62·1
1895–6–7–8..... (antitoxin)	816	9	1·1

But before these figures can quite fairly be compared, certain deductions must be made. Previously to 1895 the diagnosis of diphtheria was made on clinical data alone. In 1895—coincidently with the commencement of the antitoxin treatment—the bacteriological method was adopted, the cultures for the first year or more being examined at the laboratories of the combined colleges under the supervision of Dr. Sims Woodhead, and in later years, with precisely similar results, at our own laboratory. Now this has undoubtedly led to the inclusion of a considerable number of cases which formerly, and from unaided clinical data, would have been regarded as attacks of simple tonsillitis. Unfortunately we have no means of determining exactly what this proportion of what we may call "bacteriological" cases is; but let us even suppose that 3 out of every 4 of our tabulated cases should be rejected on these grounds for the purpose of ensuring a fair comparison with the results of previous years. This is too liberal an allowance, for I find on looking over our case-book for 1898 that nearly one-third of the cases are described as "severe." But even so, we

should have a percentage mortality of only 4·4 to compare with the 62·1 of our pre-antitoxin days.

Beyond mentioning that all but a very small minority of these cases are young children, I give no figures of age and sex incidence. My only object is to direct attention to the great reduction in the death-rate of these cases of diphtheria following scarlet fever, a reduction which it seems impossible to attribute to any other cause than the use of antitoxin.

Dosage, &c.—Of 169 cases occurring during 1898, 161 were treated with antitoxin—the exceptions being chiefly older patients with obviously mild symptoms—the average dose being 7,044 units. To the milder cases a smaller quantity was given; while in severe cases the dosage was much increased. In urgent laryngeal cases in young children repeated large doses were administered—8,000 or 12,000 units at intervals of six to twelve hours, till the stridor showed signs of abating. One child of three years, a laryngeal case of the severest type, had 28,000 units in three doses within twenty-four hours, and made a perfect recovery, with no unpleasant after-effects beyond a slight urticarial rash lasting for a few days. Of these 161 cases, 140 were treated on the first day—most of them within a few hours of the appearance of symptoms—17 on the second day, and 4 later in the disease. Of the two deaths that occurred among the cases treated in 1898, one was due to a subsequent attack of measles.

The *complications* attributable to antitoxin, such as pyrexia, joint pains, and rashes, are well known, and need no mention here. Their severity seems to bear no proportion to the amount of the dose, being often most marked, and causing most discomfort, in adults who have only had small injections. In the large majority of our cases they have been quite transient and trivial, and have never been sufficiently grave to cause anxiety.

Now no tables so far published, containing statistics of the antitoxin treatment of *primary* diphtheria, show so striking a reduction of mortality as from 62·1 to 1·1 per cent. Among 6,397 cases of primary diphtheria treated in the hospitals of the Metropolitan Asylums Board in 1897 there was a percentage mortality of 17·69, comparing, indeed, very favourably with the mortality of 30 and 29 per cent. in the two

years immediately preceding the general introduction of antitoxin, but showing no such extraordinary contrast as those figures which form the subject of this paper.

What then is the reason why the anti-diphtheritic serum should have produced results so much more striking in post-scarlatinal than in primary diphtheria? There is no suggestion that these are two diseases, pathologically or etiologically distinct, nor that the secondary form is of a milder type than the primary; indeed, the contrary was generally admitted to be the case, and this view was supported by statistics showing the greater fatality of diphtheria following scarlet fever. The explanation seems to lie in the early administration of the antitoxin. In the "acute" hospitals it is rarely possible to commence the treatment on the first invasion of the disease. The patient has usually been ailing for some days, and is brought to the hospital after an illness of indefinite duration, often moribund. But amongst our scarlet fever convalescents the case is different; they are under the constant supervision of nurses, whose training and experience teach them quickly to observe the first signs of indisposition; and we rarely have reason to suspect that a patient has not promptly been brought under our notice when attacked by diphtheria. So much importance is attached at this hospital to *early* injections that it is our almost invariable custom, in any case that is even suspicious, to administer the antitoxin at once, without waiting for the result of the bacteriological examination.

I have just been reading over the post-mortem notes of our diphtheria cases before 1895. The contrast between then and now is most striking to us, not so much from the dry statement that the mortality has diminished by such and such an amount, as from the recollection of the anxiety caused in those days by the occurrence of a fresh case of diphtheria. The laryngeal cases mostly died, and there were many which our experience taught us to regard as hopeless from the first. The cases we still have, but instead of dying they live, and our anxiety is a thing of the past.

My thanks are due to Mr. F. N. Hume, the Medical Superintendent, for permission to make use of all the case records of the Northern Hospital.

TWO CASES OF ABDOMINAL HYSTERECTOMY.

By CHARLES RYALL, F.R.C.S.
Surgeon to Out-Patients, London Lock Hospital.
Surgeon to the Cancer Hospital, Brompton.

CASE I.—ABDOMINAL HYSTERECTOMY FOR FIBRO-MYOMATA, FOLLOWED BY INTESTINAL OBSTRUCTION. RECOVERY.

Mrs. R., aged 55, married, was sent to me by Dr. Chas. Heaton, of Westgate-on-Sea, on 27th September, 1898, and gave the following history:—For 13 years she has noticed a tumour in the abdomen, which gave her little trouble until two years ago, when it began to enlarge, and has continued to do so up to the time of consulting me. There is much pain in the abdomen, sacrum, and loins, which is aggravated by standing or walking, and so much so that the patient is unable to get about and attend to her household duties. There is great loss of flesh, the bowels are constantly constipated, and micturition is both frequent and painful.

Past History.—No previous severe illness. Catamenia began at 13 years. Regular, no severe loss, always dysmenorrhœa; menopause at age of 45; children, two; youngest, 32 years old. No miscarriages.

Present Condition.—A hard nodular and irregular mass about the size of a fœtal head can be felt in the hypogastric region; dull on percussion, and very mobile.

Per Vaginam.—The cervix is pushed over to the right side. A nodular mass, which is part of the abdominal tumour, can be felt in the left and posterior fornices, and is found to be incorporated with the uterus. The whole mass is quite mobile.

Operation.—5th October, 1898. The abdomen was opened in the middle line above the pubis, and the uterus, which was the site of multiple fibro-myomata, was brought outside the

wound. The upper part of each broad ligament was ligatured and incised, leaving the right ovary; but the left ovary was removed owing to its adherence to the tumour. Peritoneal flaps were turned down from the anterior and posterior surfaces of the uterus, and the uterine vessels were tied in the vertical part of their course about the level of the os internum, and here the uterus was severed. The edges of the cervical stump were brought together with catgut, and over this was sewn the peritoneal flaps, thus completing the pelvic floor, and the abdominal wound was then sutured in three layers.

After History.—The patient went on very well on the first and second day following the operation, and a little fæces and some flatus was passed after administering calomel grs. v. and an enema, and again a little flatus was passed on the morning of the third day. About noon of that day the patient was seized with sudden pain in the left iliac region, followed by slight sickness. On examination there was much tenderness in the left iliac fossa, and the colon was distended, and in a few hours the distension spread to the small intestines. Five grains of calomel were given every two hours, and enemata by the long rectal tube were administered but not retained, and neither fæces or flatus could be passed.

The abdominal wound was re-opened six hours after the onset of the symptoms, and then it was found that the sigmoid loop was kinked and bound by recent adhesions to the remains of the left broad ligament. It was easily freed, but on pulling it up a good deal of tension was made on the ligature embracing the upper part of the left broad ligament, and owing to the proximity of this ligature to the meso-sigmoid it was thought that it might possibly cause a continuance of the symptoms. The patient was in a feeble condition, and there was a great deal of liquid fæces in the colon, so the sigmoid was sutured to the original abdominal wound, and drained by means of a Paul's tube. The patient progressed satisfactorily after this, the tube being removed on the fifth day, after which the bowels began to act naturally, and the fæcal fistula gradually contracted and closed eventually in a month's time.

I have no doubt that in this case the cause of the obstruction was the kinking of the sigmoid and the formation of adhesions, but a ligature close to the meso-sigmoid may also cause similar symptoms by obstructing the blood flow or interfering with the nervous innervation of the part, hence it was considered advisable to drain the sigmoid and not let the patient run the risk of further intestinal toxæmia.

CASE II.—ABDOMINAL HYSTERECTOMY FOR FIBRO-MYOMATA, WHERE DOUBLE OOPHORECTOMY HAD FAILED TO RELIEVE THE METRORRHAGIA.

J. L., aged 39, unmarried, was admitted into the Cancer Hospital on March 22nd, 1898, complaining of severe bleeding from the womb and great weakness.

History of Present Illness.—Six years ago she had excessive loss at a menstrual period, and this lasted 14 days, during which time large clots were passed. After this the periods only had about two weeks' interval, and lasted usually from three weeks to one month. For this she was treated by "rest and medicine," but without relief. In January, 1895, she had both her ovaries removed by a London surgeon. This latter procedure has also afforded no relief, and in fact the symptoms since then have become gradually worse, and during the four months preceding admission there has been almost continual bleeding, with occasionally a day's interval.

Condition on Admission.—The patient was very feeble, much emaciated, and suffering from profound anæmia. The old laparotomy scar was the site of a ventral hernia. There were frequent attacks of abdominal pain.

Per Vaginam.—The cervix was normal, the uterus was fixed in the pelvis, and bimanually a nodular tumour, the size of a large cricket ball, could be felt incorporated with the uterus.

From March 26th to May 6th the patient was kept in bed, and liquor ferri and liquid extract of ergot was given internally, and she slightly improved in health.

Operation.—May 6th, 1898. The abdomen was opened at the site of the previous operation, and a coil of small intestine was found adherent to and freed from the old scar. Coils

of small intestine and the sigmoid loop were adherent to the uterus, and a portion of the left fallopian tube, which was the only part of the appendages left at the previous operation. After the adhesions had been carefully separated, the patient was placed in the Trendelenburg position, and an attempt was made to raise the uterus from the pelvis, but this was found impossible. Hysterectomy by Howard-Kelly's method was then performed, securing the vessels on the right side from above downwards, cutting across the uterus at the level of the os internum, and then securing the vessels from below upwards on the left side. The peritoneum was sewn over the cervical stump, and the abdomen then closed.

After History.—The patient made an excellent recovery, and is now strong and healthy, and has increased considerably in weight, but suffers from "hot flushings," which is probably due to the loss of the ovaries.

This case illustrates the futility of hoping to obtain relief by removing two healthy organs, and yet leaving the diseased one behind. The possession of the ovaries is more necessary for the general well-being of the individual than is the possession of the uterus, and as the latter was the site of the disease, it ought to have been removed at first.

PROBLEMS IN COMPARATIVE ODONTOLOGY.

By H. W. MARETT TIMS, M.D., M.Ch., F.L.S., F.Z.S.

The amount of literature relating to the probable origin of the complex crown of the mammalian teeth is now very considerable. The object of this paper is to give a short and concise account of the present position of this interesting but much debated question.

It is generally believed that the mammalia have been derived from the extinct theromorph reptiles. Whether this view be the correct one, or whether the ancestors of the mammals are to be looked for amongst the amphibia, is a matter which does not concern our present purpose.

Assuming the former view to be the more probable, the question arises: How are the complex teeth of the mammalia and the reduced number of their dentitions to be derived from the simple cone-like teeth of the reptiles with their polyphyodont condition? In considering this question it will be advisable to deal with the *number* of the dentitions in the first instance.

The terms *monophyodont*, that is animals with a single set of teeth, and *diphyodont*, or those with two sets, milk and permanent, or deciduous and successional, were first introduced by Owen. Among the former were placed the marsupials, edentates, and cetacea. Now the marsupials are generally regarded as being among the lowest of the mammalian series, and in the direct line of ancestry of the higher forms. A difficulty at once arose: the polyphyodont reptiles giving rise to the monophyodont marsupials, and these in turn to the diphyodont mammals; and, moreover, if the diphyodont condition of the last has been derived from the single set of the marsupials, which set, milk or permanent, is to be regarded as the superadded set?

In 1869 Sir William Flower* showed that in the nine-

* Flower: Homologies and Notation of the Mammalian Teeth. Journ. Anat. and Phys., 1869.

banded armadillo, and in some other edentates, the anterior teeth are preceded by milk teeth, but as they are only shed at the time of full development, they had thus escaped previous observation. From this it follows that the edentates could no longer be spoken of as monophyodont.

With reference to the single dentition of the marsupials, Flower was of opinion that it represented the permanent set of the diphyodonta in which a milk set had become superadded. This view was also supported by Oldfield Thomas.

Subsequently Kükenthal,* subjecting the developing teeth of didelphys to microscopic examination, discovered strong swellings of the dental lamina on the lingual side of the teeth. The announcement of this discovery altered all the previous views, for not only did it show that the marsupials too were diphyodont, but the opinion was at once formed that the persistent *functional* teeth in these animals must, *ipso facto*, correspond with the deciduous teeth of other mammals —a truly anomalous condition, but one which could receive no other interpretation in the condition of knowledge at that time.

In 1895† the same zoologist discovered a precisely similar condition in the cetacea, which, of course, carried with it the same interpretation.

It follows, therefore, that Owen's terms, monophyodont and diphyodont, are no longer applicable, as every order of the mammalia (excepting the monotremata) have now been shown to be diphyodont, though only one set of teeth may cut the gum. The next step in our knowledge of this subject was made by Leche,‡ who drew attention to the presence of tooth rudiments on the *labial* side of the functional teeth in *myrmecobius*. Interpreting these teeth in the light of Kükenthal's discoveries, as corresponding to the milk dentition, Leche called these labial rudiments *pre-milk* teeth. The fact of the existence of these teeth has been verified by Woodward,§ who also believes them to exist in phascologale, dasyurus, and possibly some other marsupials. It is thus

* Kükenthal: Anat. Anzeiger, Bd. vi., Nos. 23 and 24.
† Kükenthal: Anat. Anzeiger, 1891 and 1895.
‡ Leche: Morph. Jahrbuch, Bd. xx., Heft. 2.
§ Woodward, M. F.: Science Progress, July, 1894. p. 438.

seen that these animals, instead of being monophyodont, really possess evidence of three dentitions.

Turning now to the condition of some other mammals in which the milk and permanent dentitions are well marked, Leche* and Kükenthal† found traces of a third dentition upon the *lingual* side of the permanent teeth in the seal; Röse‡ found a similar condition in man; Woodward§ in erinaceus; and I‖ have observed the same in a marked degree in connection with the third upper incisor in the dog. This may be termed a *post-permanent* dentition. Applying these discoveries to the condition found in the marsupials, I‖ have interpreted the dentitions of the latter in the same way, and thus revert to the opinion long ago advanced by Flower and Oldfield Thomas, viz., that the functional dentition of the metatheria are the homologues of the functional teeth of the eutheria; Kükenthal's lingual rudiments would thus represent the post-permanent dentition, while Leche's pre-milk dentition would represent the vestigial remains of a milk set.

This view was arrived at independently by Wilson and Hill,¶ and received ample confirmation in their exhaustive examination of the development of the teeth in perameles. A similar explanation may be given of the condition obtaining in the cetacea.

From this it follows that there is a considerable amount of evidence in favour of a triphyodont condition in the mammalia. Thus the difficulty of the derivation from a polyphyodont condition is entirely removed.

Turning now to the question of the derivation of the complex crowns of the molar teeth from a simple cone-like tooth, several theories have been advanced, and each have obtained their respective adherents.

Probably the view which has received the widest acceptance both in this country and abroad is that known as the tritubercular theory. This theory was first propounded, and

* Leche: Morph. Jahrbuch, 1892 and 1893.

† Kükenthal: Jen. Zeit. f. Naturw., xxviii.

‡ Röse: Archiv Mihr. Anat., xxxviii.

§ Woodward: On the Development of the Teeth in certain Insectivora. Brit. Assoc. Rep., 1895.

‖ Tims: Anat. Anzeiger, Bd. xi., Nos. 18 and 19, 1896.

¶ Wilson and Hill: Observations upon the Development and Succession of the Teeth in Perameles. Quart. Journ. Micr. Sci., 1896.

has since been strenuouslv upheld in numerous papers, by Professor H. F. Osborn and the late Professor Cope. It *apparently* receives considerable support from palæontology, but when put to the test of embryological examination, it fares badly.

Briefly, this theory may be stated as follows:—By the constant interlocking of the peg-like teeth in the two jaws minute cusps are mechanically formed upon the anterior and posterior faces of the teeth, which, gradually increasing in size, give rise to teeth with three cusps in the same plane, the central primitive cone being termed the protocone in the upper jaw and protoconid in the lower, the anterior cones the paracone and paraconid, while the posterior are called the metacone and metaconid in the upper and lower jaws respectively. Such a triconodont form of tooth is to be found in the Triassic *dromotherium* and in Jurassic *amphilestes*, the lateral cusps being much more pronounced in the latter.

Owing to the wedging action brought about by the closure of the jaws, the protocone is supposed to have been driven inwards and the protoconid outwards, forming a tooth with a triangular crown with its apex inwards in the upper and outwards in the lower teeth, the paracone and paraconid being the anterior cusps of the bases, the metacone and metaconid the posterior. This pattern is known as a tritubercular tooth, and is to be found in the Jurassic *spalacotherium* of the Purbeck beds. Such tritubercular teeth are said to be found among existing insectivora and lemurs.

It will be seen, therefore, that according to this view the protocone and protoconid represent the primitive reptilian cone. Consequently, in accordance with Von Baer's law it would be expected that these cusps should be the first to appear in the course of embryonic development, but such is not the case. Röse* has worked out the tooth-genesis in the marsupialia and primates, and Taecker† in the ungulata.‡ In each of these cases the protoconid does develop first, but

* Röse: Anat. Anzeiger, 1892, p. 392.

† Taecker: Zur Kenntniss Odontogenese bei Ungulaten.

‡ I have purposely left out M. F. Woodward's researches into the Tooth-genesis of the Insectivora as opening up debatable questions quite beyond the scope of the present paper.

not the protocone. The paracone always develops first in the upper jaw, and in the ungulates the metacone also appears before the protocone. My own results in the canidæ* agree with these entirely, and as I have pointed out there are good reasons for regarding the upper teeth as being more primitive than the lower, I think it must be admitted that embryology tends to throw considerable doubt upon this theory in its entirety. Still more is this the case when the development of the secondary cusps is taken into account.†

Again, in the upper fourth deciduous premolar of the dog, and in the first upper molar of *Cyon rutilans*, I have shown (*loc. cit.*) that the protocone is absent altogether, nor is it represented in the upper premolars of the jackal, in my opinion another very grave objection to the acceptance of this view.

A second theory, the multituberculate, was advanced by Dr. Forsyth Major,‡ and has received support from Goodrich§ and other comparative embryologists. Certain of the early mammals possessed multi-cuspidate teeth, and are known as the multituberculata—ex. tritylodon with three rows of three cusps each. It is supposed that by a gradual suppression of some of these cusps, the teeth of existing mammals have been derived. In support of this view it has rightly been pointed out that some of the most primitive of existing mammals, the monotremata, have multitubercular teeth.

An explanation of a multituberculate condition derived from the haplodont teeth of the reptilia is to be found in Kükenthal's concrescence theory. Kükenthal supposes that several teeth of the same and of successive dentitions have undergone fusion, and this would also account for the reduc-

* Tims: On the Tooth-genesis in the Canidæ. Journ. (Zool.) Linnean Soc. Lond., Vol. xxv., p. 445.

† In connection with this point I would draw attention to the description of the first upper molar of the milk series, to be found in most text-books on human anatomy. From such descriptions it might be concluded that this tooth is typically tritubercular. In no single specimen that I have examined does such a description hold good. This tooth has been accurately described by both Topinard and Sappey.

‡ Major, Forsyth: On some Miocene Squirrels, with remarks on the Dentition and Classification of the Sciurinæ. Proc. Zool. Soc. Lon., 1893, p. 179.

§ Goodrich. E. S.: On the Fossil Mammalia of the Stonerfield Slate. Quart. Journ. Micr. Sci., Vol. xxxv., p. 407.

tion in the actual number of teeth in passing from the reptilian to the mammalian series.

Against this multituberculate theory there are, to my mind, very serious objections. While admitting that teeth of this pattern (tritylodon) are found in the Triassic rocks, it must be remembered that there are others, and they the more numerous, which are by no means multituberculate—*e.g.*, *microlestes* and *dromotherium*. Again, the multituberculata have a very specialised dental formula, with numerically reduced incisors and no canines. I am therefore unable to believe such forms to have been the ancestors of marsupials, carnivores, and insectivores with their full complement of teeth.

It may be possible that such forms as rodents and ungulates, with their reduced dentitions, may have had a multituberculate origin, and the researches of Forsyth Major on the miocene squirrels, and later on the Malagasy rodents,* afford some palæontological evidence in favour of this view.

I am at present investigating this question from an embryological standpoint. If this suggestion should prove to be correct, it will be of great interest, and, I think, tend to the idea of a dual origin for the mammalia.

I may add, in passing, that the development of a single well-marked cone is the first stage in the development of the molar teeth of the canidæ, and this adds an embryological objection to the multituberculate origin for the carnivora.

Without entering more fully into the discussion of these problems, it appears to me that, though the monotremes, rodents, and ungulates *may* have been derived from multituberculate ancestors, nevertheless neither that theory nor the tritubercular are sufficient to account for the present condition of the molar teeth in the majority of the eutheria.

However, I venture to think that there may be another possible explanation. In the first place, the development of the cusps shows that the antero-external cone is the first to develop in both upper and lower jaws in marsupials, ungulates, carnivora, and primates. This fact cannot be without significance, and I think one must therefore regard the

* Forsyth, Major: On the Malagasy Rodent Genus Brachyuromys, etc. Proc. *Zool.* Soc. Lond., 1897.

paracone and protoconid as homologous cusps and as the representative of the primitive reptilian cone. This may be termed the *primary cone.*

The next fact to which I would draw attention is the constant presence of the internal cingulum, and, moreover, its great antiquity as proved both embryologically and palæontologically.

This cingulum extends on to the lateral aspects of the primary cone, and gives rise to small anterior and posterior cusps, such as are well seen in the deciduous incisors of the dog, and also at once suggest the form of tooth to be found in the fossil *microconodon.* The cingulum may even extend on to the external face of the tooth, and give rise to cusps externally, as in otocyon and in some insectivora.

I will not further detail the evolution of the cusps, all of which I believe to have been derived from the internal cingulum, as I have given a full description of this *Theory of Cingulum Cusp* Development elsewhere.* It may be added that I believe this view to be in accord with embryological evidence, while such forms as *microconodon, amphitherium, Prevostii* and *peraspalax* afford palæontological evidence as strong as that upon which trituberculy is based. Moreover, no *supposed* rotation of cusps is required to have taken place, such as is the case in the evolution of the tritubercular from the triconodont type; and lastly, it is thus possible and easy to homologise the cusps of all teeth, except, perhaps, those derived from a multituberculate type.

In the foregoing pages I have tried to give a brief account of the more important problems in comparative odontology, and while compelled to enter into a certain amount of detail, I have endeavoured to free it from technicalities as far as possible, in the hope that it may be of interest to those who have not turned their attention in this particular direction.

* Tims: On the Tooth-genesis in the Canidæ. Journ. (Zool.) Linnean Soc. Lond., Vol. xxv.

REPORT OF A CASE OF CERVICAL RIBS.

By G. HAMLYN FAIRHALL.

At the request of Mr. Black, the following report of a case of cervical ribs, which were found in a dissecting-room subject during the last winter course, is compiled from his notes on the case.

That the occurrence of such ribs is sufficiently rare is evidenced by the fact that Gruber, who collected all known cases from 1740 to 1809, found only 79 examples occurring in 45 individuals. With regard to the case now reported, owing to the fact that the existence of the abnormality was not discovered until the dissection had reached a somewhat advanced stage, the report is not so complete as could be desired.

In this subject—an elderly woman—the additional rib on both sides articulated with the seventh cervical vertebra, to which the head was connected by a well-developed costo-vertebral or stellate ligament. The costo-transverse ligaments could not be made out as the transverse processes had been almost destroyed in the removal of the spinal cord before the existence of these ribs was suspected.

The cervical rib of the right side reached as far as the costal cartilage of the first thoracic rib, to which its tapered anterior extremity was firmly connected by ligamentous attachment.

The cervical rib of the left side was much shorter in that it reached only as far as where the subclavian artery issues from beneath the scalenus anticus, a ligamentous cord being prolonged from its anterior pointed end across the lowest part of this muscle to gain attachment to the upper edge of the first thoracic rib near its sternal extremity.

In the right rib there was a well-developed scalene tubercle about $\frac{3}{4}$ inch from its anterior limit, to which the scalenus anticus was attached, and the subclavian vessels bore the same relation to the muscle and the cervical rib as they

usually do to the scalenus anticus and a normal first rib. The scalenus medius and scalenus posticus were in part attached to the cervical ribs, but gained a further insertion into the first thoracic rib. The cervicalis ascendens and the transversalis cervicis were also attached to these bones.

A very large fan-shaped digitation of the serratus magnus arose from the anterior extremity of the rudimentary rib of the left side. There was no such additional digitation for the right muscle, as one might naturally have expected, considering the much greater size of the cervical rib on this side.

Intercostal muscles occupied the interval between the cervical and the first thoracic ribs. At the posterior extremity of the internal intercostals of the second space (*i.e.*, the space corresponding to the normal first intercostal space) on either side there was a narrow elongated muscle, the fibres of which ran in nearly the same direction as those of the internal intercostals, but which was evidently differentiated off and considered to be a well-developed subcostal muscle.

On both sides the normal first intercostal space was supplied by the first thoracic nerve, and filaments from the same source streamed across the inner surface of the first thoracic rib to supply the intercostal muscles of the supplementary space. The nerve then passed up in the usual manner in front of the neck of the first thoracic rib to be united to the eighth cervical nerve, the combined trunk crossing the neck of the cervical rib to take part in the brachial plexus.

The superior intercostal artery supplied the additional intercostal space, as well as that between the first and second thoracic ribs.

The pleura on each side lined the cervical rib, and reached nearly to the level of the carotid tubercle.

Wiedersheim refers to the association of deficiency of costal arches at the caudal, accompanying addition to the cephalic extremity of the thorax, but in this case there was a twelfth thoracic rib, though of a rudimentary character, being not more than an inch in length.

ABNORMALITIES DISCOVERED IN THE DISSECTING ROOM DURING 1897 AND 1898.

By F. W. W. DAWSON.

Muscular System.—1. The sternal head of the sterno-mastoid on the left side extended to the clavicle, and united with the clavicular head. It had also an additional slip from the first rib. In Morris's Anatomy it is stated that an extension of the sternal head has been observed arising from the costal cartilages as low as the fifth rib. On the right side the stylohyoid ligament was replaced by muscle.

2. An accessory slip of the iliacus was found arising from the upper part of the acetabulum, close to the margin, and beneath the reflected head of the rectus. It was also attached to the capsular ligament of the hip joint. This was probably an example of iliacus minor or ilio-capsularis, an extra pelvic slip segmented off from the muscle externally.

3. In a powerful subject, 6 ft. 2 in. high, who had been a dock labourer, the trapezius was attached to quite the outer three-fourths of the clavicle. Its anterior border was united to the posterior border of the sterno-mastoid, thereby covering over the posterior triangle. This abnormality is usually met with in people of weak muscular development.

4. The omohyoid on each side was attached directly to the clavicle.

5. In a foot the two outermost slips of the flexor brevis digitorum, besides splitting to allow the passage of the tendinous slips of the flexor longus digitorum, and re-uniting as usual to be inserted into either margin of the second phalanx, sent off two other slips, which were attached to glenoid ligaments opposite the bases of the proximal phalanges. This abnormality has been noticed, and lately mentioned by Mr. Parsons.

6. Arising in common with the extensor indicis was a long

slip with a very small tapering fleshy belly, which passed to blend with the dorsal aspect of the synovial capsule of the middle metacarpo-phalangeal joint, but which could be separated from this and seen to fuse with the under aspect of the dorsal extensor expansion.

Circulatory System.—1. On the right side the external carotid was posterior and external to the internal carotid.

2. The transversalis colli artery was placed deeply beneath the cords of the brachial plexus and the scalenus medius on the left side. In the same body the right spermatic artery passed beneath the vena cava, and each obturator artery came off from the deep epigastric.

3. A large secondary renal artery was observed coming off from the aorta above the renal artery, and entering the internal margin of the right kidney about half an inch above the hilum. The suprarenal artery was given off from this vessel.

4. The external saphenous vein continued directly up the leg as the profunda femoris vein. A large union, however, occurred with the popliteal vein at the usual site of its ending in this trunk.

Abdominal Viscera.—Three well-marked peritoneal fossæ were discovered in the same body:—

1. A well-marked subcæcal fossa, extending upwards for the length of the little finger, and containing the vermiform appendix.

2. A large sigmoid fossa, also about the length of the little finger, and opening downwards.

3. An inferior duodeno-jejunal fossa sufficiently wide to admit two fingers. The free edge of its peritoneal margin contained an ascending branch of the colica sinistra artery.

Articulations.—A joint was discovered between the acromion process and the outer end of the spine of the scapula. The acromio-clavicular joint was in its normal position, but the acromion process was separated from the spine of the scapula, and a well-marked joint, with anterior and posterior ligaments and a synovial membrane, could be made out.

Nervous System.—1. A branch from the cervical sympathetic of the right side crossed over the innominate artery,

and under the innominate vein to join the superficial cardiac plexus.

2. The median nerve passed down on the inner side of the axillary and brachial arteries, the outer head passing beneath the former vessel to unite with the inner head.

3. The external or short saphenous nerve took the place of the muscular cutaneous in its mode of distribution.

4. The larger nerve supply of the flexor brevis digitorum came from the external plantar nerve, and an additional small supply from the internal plantar nerve.

N.B.—Most of the abnormalities were observed by me while in charge of the abnormality book. They have been revised and added to by Mr. Black.—F. W. W. D.

NOTES OF SOME SURGICAL CASES IN THE WARDS OF THE HOSPITAL DURING 1897 AND 1898.

By E. PERCY PATON.

Enlarged Glands in Neck due to Streptococcic Infection.—General Infection.—Treatment by Anti-streptococcic Serum.—Recovery.

J. W., male, æt. 21, labourer, was admitted under Mr. Spencer with large glands in his neck, behind the left sterno-mastoid, on October 19th, 1898. He had noticed the swelling since the 16th inst., and it had rapidly increased, and was very painful.

The swelling was obviously glandular, brawny, but not fluctuating, and adherent to the deeper parts. Temperature, 104°.

Next day an incision was made into the mass; no pus was found, and part of the mass was removed, the cavity being plugged with gauze. The man seemed no better, in fact rather worse next day, and the succeeding days, and on the 24th he complained of pain in the præcordium, and a pericardial friction rub was heard. There was now free discharge of pus from the wound and some sloughing. An injection of 10 cc. of anti-streptococcic serum (from Jenner Institute) was given. Next day he remained much the same, and the 10 cc. of serum was repeated.

On the 26th his general condition had certainly improved, but the dose of serum (10 cc.) was repeated. He continued to improve, but on the 31st the temperature touched 103°, and he was noted to have a pleural rub at the left base. This cleared up, but on November 5th the cardiac dulness had increased upwards and to the left as high as the third rib, and remained so for nearly a week, when it gradually returned to normal again, the temperature gradually settling

down at the same time. During these troubles in his chest the wound continued to discharge freely, but gradually filled up from the bottom. Patient was discharged well on December 15th.

On October 28th the following bacteriological report was obtained:—

Agar cultures from the throat contain a yeast, staphylococcus albus, streptococcus pyogenes, and a few bacilli. Cover glass preparation of pus from neck showed chiefly streptococci, and a few groups of staphylococci.

Fibrous Papilloma below the Larynx.—Laryngotomy and Removal.

R. S., male, æt. 22, labourer, was admitted under Mr. Spencer, November 10th, 1898, with the history that for the past two or three years his voice had been hoarse, and that this hoarseness was gradually getting worse.

On laryngoscopic examination a vascular-looking mass was seen below, and apparently attached just below the right vocal cord, moving from right to left on phonation. On expiration this mass, which seemed to have a broad base of attachment, was blown into the glottis.

Immediately on admission patient was attacked with ordinary catarrhal jaundice, so removal was postponed till November 17th, when an attempt was made (after cocainising the parts) to remove it with forceps through the mouth, but without success. On 25th a similar attempt was made with forceps and a snare, but again failed owing to the patient's restlessness. On November 29th, an ordinary laryngotomy was performed. The mass was found to be a fibromatous polypus, almost as large as a cherry, attached by a sessile base half an inch below the anterior third of the right vocal cord. It was removed with the actual cautery. The deep part of the wound was then sutured with catgut, the superficial part of it being left open. Except for an attack of tonsillitis, the patient convalesced without event.

December 22nd.—It was noted that the larynx and voice were now almost normal. The spot from which the growth had been removed, below the anterior part of the right vocal

cord, could just be distinguished. Wound in the neck practically healed.

Microscopically the growth was a fibro-angioma, covered with stratified epithelium.

Sarcoma of the Upper Jaw.—Removal.—Recovery.

T. S., male, æt. 11, schoolboy, was admitted under Mr. Spencer, on November 14th, 1898, with the history that for some months he had been suffering from left nasal obstruction and occasional hæmorrhage, for which he had been treated by a private doctor and at a general hospital without improvement.

On examination it was found that there was a firm vascular-looking mass, occupying the left nostril; this was felt by the finger to be continuous with a mass on the naso-pharynx. It was attached to the outer wall of the nose and not to the septum. There was a little swelling of the left cheek, which was opaque to trans-illumination. The alveolar, palatal, and orbital plates of the maxilla seemed normal.

November 15th.—The anterior wall of the antrum was exposed by Ferguson's incision for removal of the upper jaw, the cheek being turned out. On gouging into it the cavity was found empty, but its posterior wall was much pushed forward by the growth in the naso-pharynx. The left nostril was now detached and pushed over to the right, and the anterior, posterior, and inner walls of the antrum, with parts of the tumour attached to them, were removed piecemeal, bleeding being stopped by pressure. Prolongations of the growth were found extending into the temporal and spheno-maxillary fossæ, and these were freely removed; it was also found necessary to cut away part of the orbital plate, but the alveolar and palatal processes were not interfered with. Bleeding was now stopped by twisting, and the actual cautery, and the cavity dusted with iodoform and plugged. The wound was then sutured, the ends of the gauze plugs being brought out between the alveolar margin and the cheek.

The boy recovered well from the shock, the plugs being

removed without causing any bleeding on the 17th, after which the cavity was frequently irrigated with permanganate solution and iodoform blown in.

The wound healed without event, and he went out well on December 8th, 1898. He returned to show himself about a month later, still looking well. No recurrence.

Microscopic examination showed the growth to be a fibro-sarcoma.

Hyperostosis of the Temporal Bone.

S. B., female, æt. 51, charwoman, was admitted under Mr. Stonham, May 24th, 1898, with the history that twenty years before admission she first noticed a swelling, about the size of a pea, in the anterior part of the left temporal region, which swelling had increased ever since she first noticed it, but rather more rapidly the last few months. It gave rise to no pain, and only troubled her on account of its size. During the last few months she had been taking large doses of iodide of potash without in any way influencing it. There was no evidence pointing to syphilis. On examination there was found in the left temporal region a swelling measuring about three inches by two inches, it commenced at the external angle of the frontal bone and extended back beyond the ala of the sphenoid, and downwards as far as the zygoma. Its upper half was of bony hardness, while its lower part was softer, apparently due to its being covered by muscle. It was rounded and smooth in outline, and the skin over it was normal, except for a few enlarged veins.

The left eye was distinctly pushed forwards, but its movements were unimpaired, and its sight was normal. The lacrymal gland could be felt pushed downwards and outwards, but no thickening of the orbital plate of the frontal could be clearly made out. There were no intracranial symptoms.

May 25th.—The swelling was explored by turning down a horse-shoe flap of skin and pericranium. It was then found to be a general hard thickening of the bones involved (hyperostosis), and as nothing remedial could be done, the wound was closed.

It healed without event, and she went out on June 15th.

Primary Glandular Carcinoma of the Parotid.—Removal.—Recurrence.

G. P., male, æt. 32, cellarman, was admitted under Mr. Stonham, February 11th, 1898. He stated that for twelve years he had noticed a round hard mass, about the size of a pea, just below and behind the left angle of the lower jaw; this, however, had not increased much in size until the last two years, while the last year it had increased very rapidly, having trebled its size, and had occasionally given him a little pain.

On examination there was a swelling situated between the angle of the jaw and mastoid process, and extending down from a line joining these for about two inches. Its transverse diameter was an inch and a half. It was rounded in outline, but somewhat lobulated and hard in consistency. The skin was free over it, and it did not seem firmly adherent to the deeper structures. No facial palsy, no enlarged glands, and nothing abnormal could be found in the mouth or pharynx.

On February 18th the tumour was removed without any difficulty; it seemed to be encapsuled, and did not infiltrate the parts around. The wound healed without event, except that for a day or two there was some discharge of fluid which had some amylolytic action. He was discharged well, March 3rd, 1898. On section the growth seemed like an ordinary mixed parotid tumour, with, however, no cartilage in it. Unfortunately it was not microscoped. On July 27th, 1898, he was re-admitted with a return of the swelling under the scar of the last operation; this he noticed first about a month before his re-admission, since which time it had increased very rapidly.

On examination there was now found a very prominent swelling situated under the old scar, commencing about two inches from the lobule of the ear, extending downwards into the neck to within an inch of the thyroid cartilage. It largely surrounded the angle of the jaw, and was firmly attached to both the skin and the deeper structures. In parts it was hard, in others fluctuating. Nothing abnormal was found in the mouth, nor were there any enlarged glands.

On August 4th an attempt was made to remove it, but with only partial success, owing to its deep attachments. The wound, however, closed rapidly, and he was discharged August 16th. The part removed had the typical structure of columnar-celled glandular carcinoma.

Since this the growth has again recurred, and is now a large size, while the man is much wasted. He has been recently (January, 1899) treated as an out-patient with injections of Coley's fluid, but without any apparent benefit.

Osteoma in, and Empyema of, the Frontal Sinuses.—Cerebral Symptoms.—Trephining.—Recovery.

F. B., male, æt. 20, clerk, was transferred from the medical wards to the care of Mr. Stonham on December 29th, 1897. He had been admitted into the medical wards in September, 1897, with obscure cerebral symptoms, which included severe headache, occasional epileptiform fits, and drowsiness, with double optic neuritis. During the month preceding his transfer, a swelling had appeared over the right eyebrow, which had gradually increased in size, and the drowsiness, which before had almost amounted to partial unconsciousness, had become less marked. There had never been any localising symptoms.

On December 29th the following note was made:—On the right side of the forehead is a swelling about the size of a bantam's egg, just above the superciliary ridge. The swelling also projects below the ridge into the orbit. The inner part of the swelling is soft and fluctuating, and fluctuation can be transmitted from the swelling on the forehead to that in the orbit. There is no pulsation. The globe of the right eye is forced downwards by the swelling. The movement of the eyes is normal, except as to both external recti, that on the right side being apparently weakened, while that on the left is paralysed. There is some ptosis of the right eyelid. Both pupils react to light, but the right one is larger than the left. With the right eye he can count fingers; with the left he can read easily. The patient's mental condition is very dull, but not otherwise abnormal.

On the 4th of January the swelling was larger and softer, but otherwise there was no change.

January 5th.—An incision was made marking a horse-shoe flap by cutting from the root of the nose to the coronal suture, and then down to just beyond the right external angular process of the frontal bone. This flap was then raised with the pericranium. As soon as the swelling was reached an ounce of thick, greenish pus escaped from an opening in the outer table of the skull, the edges of which were worm-eaten and carious. On enlarging this hole it was found to open into the right frontal sinus, which was found to be much increased in size and to contain more pus and some polypoid mucous membrane, which was cut away. There was also a second opening from the floor of the sinus into the orbit, and in addition, over an area about the size of a sixpence, its posterior wall had disappeared, exposing the dura mater. Towards the middle line were two or three rounded masses of hard bone, lying between the right and left frontal sinuses, and apparently blocking the right infundibulum. Some further bone was therefore chipped away, and these masses, which lay almost free in the cavity, were prised out with a chisel. Some of the carious bone was now scraped, and the parts irrigated. An opening was made through the base of the flap, close to the nose, through which the cavity was packed with gauze. The inner end of the incision also had a small gauze drain inserted into it.

January 8th.—Patient rallied well from the operation, and to-day seemed much as before the operation, his intelligence being not very great and his speech hesitating and slow, otherwise he seems well.

January 11th.—The wound was dressed and the plugs removed; it had mostly healed. His intelligence is distinctly greater than before operation.

January 24th.—Patient had a fit, which lasted a little over a minute. It was mainly tonic in character, and affected both sides, and left him rather dazed; otherwise his condition is unaltered.

February 3rd.—Wound quite healed; no more fits, but intelligence remains still very sluggish, but can answer questions quite well. Is getting up, and seems otherwise well.

February 7th.—Went out in much the same condition.

A Case of Aneurysm of both Popliteal Arteries.—Ligature of both Superficial Femorals.—Recovery.

S. C., male, æt. 25, House of Commons attendant, was admitted under Mr. Spencer, July 26th, 1898, with the history that two days before admission, after taking a long walk, he noticed that his left leg was swollen. He had previously suffered no pain or trouble in the limb.

On admission the left leg, from the knee down, pitted slightly; the left ham contained a swelling which almost filled it, giving all the ordinary signs of aneurysm. There was no evidence of aneurysm in any other part of the body; the heart and urine were normal, as were all other organs. He admitted having had syphilis about three years previously, but there were no present signs of it.

The left femoral artery was ligatured at the apex of Scarpa's triangle on August 2nd. The wound healed without event, and he went out with the aneurysm reduced to a small, hard, non-pulsatile mass, and the circulation in the leg good on August 24th, 1898.

On January 6th, 1899, he returned, saying that he had kept very quiet since the last operation, but had noticed, for the last month, an increasing, pulsating swelling in the right thigh, which, however, gave him no pain. There was now to be noticed a marked aneurysmal swelling occupying the lower half of Hunter's canal, and extending into the ham. All the ordinary signs of aneurysm were present. The old aneurysm in the left ham could be felt as a hard mass, about the size of a walnut. The man was otherwise in the same condition as when in before.

January 10th.—Right femoral tied at the apex of Scarpa's triangle.

The patient did well, and he went out well on January 27th, the aneurysm apparently consolidated.

Tuberculous Abscess of the Tongue.—Excision.

N. J., æt. 24, female, was admitted under Mr. Stonham, April 5th, 1897, with a swelling of the left side and tip of tongue, which she said had been coming for about two

months, without pain or other trouble. In the tip of the tongue, on its left side, was found a globular swelling, involving its whole thickness, about the size of a small marble, on the upper surface of which was a small depression from which a little thin pus occasionally exuded. The skin of the face, neck, and chest of the patient were extensively infiltrated with lupus, mostly of the non-ulcerating variety. From this she had suffered for about 15 years.

On April 7th the mass in the tongue was removed with a V-shaped piece of the organ, the two parts of which were afterwards united by sutures. The mass removed proved to be a tuberculous abscess with caseating walls.

The wound healed without event.

Two Cases of Stricture of the Œsophagus.—Gastrostomy. Recovery.

W. S., male, æt. 52, fitter, was admitted under Mr. Stonham on May 5th, 1898, with the history that in December, 1897, he first noticed some difficulty in swallowing, but this did not cause him serious inconvenience until about three months before admission, when the difficulty had much increased, and during the last two months he had only been able to swallow fluid, and sometimes even this was returned, seeming to stick at the upper border of the sternum. He stated that he had lost much weight; three months ago he weighed 11 st. 10 lbs., now 7 st. 7 lbs. An attempt to pass a bougie of small size failed, it seeming to stick about two-thirds of the way down the œsophagus.

May 11*th*.—An incision about two and a half inches long was made parallel to the rib margins, commencing a little to the left of the middle line. The rectus muscle was exposed, and its fibres separated. The abdomen was then opened, and the peritoneum stitched to the skin by several points of silk suture. The greater curvature of the stomach was then drawn into the wound and fixed there by four sutures passed through skin, rectus, and parietal peritoneum, then through the peritoneal and muscular walls of stomach, and then again through the abdominal parietes at a distance of half an inch from the point of insertion, and the ends tied over a small piece of sponge placed between the knot and

the abdominal wall. A second series of sutures was then put in through the peritoneal and muscular coats of the stomach, and through the skin and parietal peritoneum, which had been previously united by sutures (see above). The wound was then dressed.

On May 13th the patient was doing very well, having been fed by mouth. Wound dressed and stomach opened by tenotomy knife, and a tube with a funnel attached inserted, through which ℥vss of milk were given. From this time feeding was continued by the tube, the wound rapidly closing. There was no extravasation of gastric contents. He lost weight a little during the time immediately succeeding the operation, but from June 3rd to June 14th he put on 5 lbs.

He went out comfortable on June 15th.

J. J., male, æt. 62, brazier, was admitted under Mr. Turner on September 21st, 1898, with the history that for the last seven months he had suffered from gradually increasing difficulty of swallowing, while for three months he had been unable to swallow solids, and for the last three weeks even swallowing fluids had become very difficult, and frequently impossible, it returning almost immediately.

On trial it was found that water could be swallowed and was retained for about a minute, when it was returned somewhat cloudy and strongly alkaline. On passing bougies one was passed 17 inches and one 20 inches without meeting any obstruction, but not further. There was nothing to be felt in the abdomen. The patient weighed 6 st. 2 lbs. 12 ozs.

The day after admission he brought up a pint of blood in small quantities at a time, otherwise there was no change.

September 23rd.—An incision was made parallel to the rib margins on the left side, and an inch and a half from them. On opening the abdomen the stomach was found so contracted that it was impossible to draw it out of the wound, it being not more than two inches across at its widest part. Two purse-string sutures were therefore inserted, one within the other. The stomach was then punctured in the centre of these, and a tube passed in and fixed by a stitch, the innermost purse-string suture being then tied. The stomach was then invaginated somewhat, and the

second purse-string suture tied around the tube. The stomach around the tube was now sutured to the abdominal wall, and the rest of the wound closed with sutures.

The patient rallied well from the operation, and the wound healed by granulation. At first he failed, in spite of feeding, to put on weight; but before his discharge he had risen to 6 st. 8 lbs. The gastrostomy wound was satisfactory, there being no regurgitation.

On his return from a convalescent home he was found to have further increased in weight nearly a stone.

SIMPLE STRICTURE OF THE PYLORUS.—GASTRO-JEJUNOSTOMY. RECOVERY.

M. F., male, æt. 50, hotel manager, was admitted under Mr. Spencer on October 8th, 1898, with the history that he had suffered from dyspepsia, with frequent vomiting, for years; but this had been worse lately, and he had been gradually losing flesh owing to the vomiting being more frequent. He said that food was often returned, after being in the stomach some time, practically unaltered.

No objective signs could be found in the abdomen except a little tenderness in the epigastrium; no certain signs of dilatation of the stomach; no tumour; no hæmatemesis or melæna.

November 2nd.—Median epigastric incision.

A large fibrous mass found occupying the pylorus, which could not be brought into the wound owing to its firm fixation behind. Rest of the stomach normal, not specially dilated. No large glands felt, and no certain proof of malignancy. A loop of jejunum at its commencement was therefore drawn through an opening made in the meso-colon into the lesser sac of peritoneum, and there fixed to the posterior wall of the stomach by sutures, an opening being made between them. They were first united by a continuous suture posteriorly, then the openings into the stomach and gut were made and the anterior suturing completed, the whole being strengthened by a few interrupted Lembert's sutures. (Posterior gastro-jejunostomy.)

Patient recovered from the operation well, and made an

uninterrupted recovery, with practically no bad symptom. He was fed at first per rectum, and only allowed water by the mouth; but after the first three days mouth-feeding in small quantities was commenced.

He had practically no sickness after the operation, and was gradually improved to full diet, which he was able to take without inconvenience, gradually putting on flesh.

He still (February 1st, 1899) remains strong and well, and has put on much flesh.

A Case of Perforation of Gastric Ulcer.—Suture.—Recovery.

A. L., female, housemaid, æt. 22, was admitted under Mr. Spencer on May 27th, 1898, with the history that she had suffered considerably from dyspepsia for the last two years, which, however, had never caused either hæmatesis or vomiting. For this dyspepsia she was still under treatment, when at 4 p.m. on the day of admission she was attacked with violent abdominal pain, but was able to walk to her doctor, who at once sent her to the hospital.

On admission patient was considerably collapsed. The abdomen was distended, but the liver dulness not absent. She complained of excessive tenderness in the abdomen, especially in the epigastric region. Temperature, 96°.

The abdomen was at once opened by a vertical incision. The stomach was found full, and with only a little extravasation of its contents, through an opening about the size of a split pea in the centre of an indurated patch on its anterior wall. This was closed with two layers of Lembert's sutures placed at a little distance from the edge, so as to well invaginate the ulcer, the abdomen cleansed and closed without drainage.

She rallied well from the operation, and except for the fact that the temperature varied from normal to 102°, showed no bad symptoms. She was fed entirely by rectum till June 4th, except for small quantities of water by the mouth. The wound was dressed on this date, and found to have suppurated superficially throughout its whole extent. Owing to this fact the temperature ranged rather higher

for the next few days, and the tongue became somewhat dry. This, however, gradually quieted down, and the wound gradually closed. On June 15th she complained of pain in the left calf, which was swollen and œdematous, apparently from deep thrombus, as the superficial veins seemed normal. This, however, cleared up, but convalescence was again postponed by a slight attack of left basal pleurisy. This also subsided, and she went out well on July 28th.

Intestinal Obstruction.—Impaction of Gall-stone.—Removal.—Death.

S. B., æt. 72, was admitted under Mr. Turner on April 11th, 1898, with the history that two months before she had suffered from pain below the right ribs with vomiting, which lasted on and off for six weeks, but did not lay her up. Previous to this she had suffered occasionally for several years from similar attacks, but unaccompanied by vomiting. No history of jaundice. On April 4th the pain returned, and became more severe, and the vomiting became more marked. On April 6th the bowels were opened, but vomiting continued and became gradually stercoraceous in character, though the patient was able to pass flatus till her admission.

On admission (11th) the abdomen was not distended, and no tumour could be felt; patient a good deal collapsed. No flatus passed per anum, and the vomit fæculent in odour.

Patient was at once operated on; a six-inch abdominal incision was made below the umbilicus, and almost the first piece of gut that presented was found to contain a hard body, which was removed by an incision an inch and a half long through the gut, distant from its mesenteric attachment, and found to be a gall-stone one inch in diameter and two inches long. The gut was closed by two rows of Lembert's sutures, and the abdominal wound sutured.

Patient went on well till 14th, when she got very restless, the abdomen became distended, and the tongue dry and brown. The abdominal wound was found closed, but on breaking this down a small leakage was found in the sutured gut, and also some kinking, but no peritonitis. Two Paul's tubes were inserted, one either way, into the gut, which was

then fixed by sutures to the abdominal wall, two long rubber tubes passing from the glass tubes through the dressings to a receiver. The patient, however, did not rally, but died the same evening.

Post-mortem.—There was some, but not general, peritonitis. The gall bladder was adherent to the duodenum, and an old ulcerated aperture opened from one to the other.

Gangrenous Umbilical Hernia in a Child Five Days' Old. Artificial Anus.—Death.

P. B., male, æt. 5 days, was admitted under Mr. Spencer on January 19th, 1898. On admission there was a globular swelling about the size of a small hen's egg hanging from a pedicle, about $\frac{1}{4}$ inch in diameter, from the umbilical cicatrix; on the apex of this swelling was the dried remains of the umbilical cord. The skin covering the swelling was becoming gangrenous. It was resonant to percussion, but no distinct impulse on crying could be made out. The abdomen was much distended. It was stated that the swelling had been present since birth, and that the child had passed a normal motion after birth. This it did not do after admission, but was continually sick.

January 20th.—The dried cord was cut off, and a crucial incision made at its attachment, normal bile-stained fæces escaping. The next day the child was better, not being sick. The opening had become larger, while its edges were distinctly everted. The skin around still continued to slough. Nothing was passed per rectum.

January 22nd.—There was now clearly a distinct area of mucous membrane (mesenteric aspect of intestinal wall), with an opening at either end leading into the lumen of the gut. The swelling was now about the size of a bantam's egg. Some impulse on coughing. General condition fair. The child continued to discharge all fæces through the artificial anus, and gradually wasted and died January 29th.

Post-mortem.—The loop of gut in the hernial sac was found to be the last part of the ileum and the cæcum, and part of the ascending colon, part of which had completely sloughed, forming a perfect artificial anus. The specimen is preserved in the museum.

Three Cases of Renal Calculus.—Nephrolithotomy. Recovery.

L. W., female, æt. 46, married, was admitted on July 19th, 1898, under Mr. Stonham, with the history of four months' right lumbar pain. The pain has occasionally been severe, and shoots down into the thighs on both sides. When the pain is severe micturition is frequent, but the quantity passed is very small. For the last two months patient has noticed a hard swelling in the right loin. Neither sediment nor blood has been noticed in the urine. Two years ago the patient says "her kidneys were diseased," and she had œdema of feet and legs and eyelids, which, however, soon got well. On admission there was felt a mass in the right loin, extending from near the middle line outwards and as low as the umbilicus; it was well felt bimanually, dull to percussion, and tender to deep pressure. It was somewhat movable from side to side and on respiration. There was a little œdema of the feet. Urine sp. gr. 1027, acid, albumen, pus.

July 20th.—The right kidney was exposed by an oblique lumbar incision, and a large irregularly-shaped stone (uric acid) extracted from the organ, which was found enlarged into a suppurating sac into which a drainage tube was inserted, and the wound partially closed by sutures. The subsequent progress of the case was without event; the tube was gradually shortened, and finally removed on August 13th. The wound gradually closed, and she was discharged with the wound healed, but with still a small quantity of pus and albumen in the urine, on August 28th.

S. G., female, æt. 31, housemaid, was admitted under Mr. Stonham on June 24th, 1898, with the history that till a month before admission she was in her usual health, when she was attacked with sudden pain in the left side of the abdomen, which caused her to vomit. There was no special cause for it, and the patient was relieved by the vomiting, and also by lying down. The pain has not radiated widely. During the last month there have been several similar attacks, the last being on June 23rd, which lasted a quarter

of an hour. She has never noticed any peculiarity of her urine.

On examination there was to be felt a rounded tumour of firm consistency about the size of a fist, best felt bimanually, and somewhat tender to the touch, situated in the left loin. The percussion note over it was impaired. In the right loin the right kidney could be distinctly felt. Temperature between 100° and 101°; urine 1030, acid, a trace of albumen and pus. Patient feels otherwise well.

June 30th.—Kidney exposed by an oblique lumbar incision; opened and some purulent urine let out, and seven small calculi removed. One or two more pieces were reached by enlarging the wound by a vertical incision downwards. A tube was put in, and the wound sutured.

The patient convalesced without event, except some rise of temperature; but after the operation the urine was acid and not albuminous, and with no pus or blood in it. The wound gradually shrank to a small sinus, with which she was discharged on August 6th.

On October 11th she was re-admitted with the history that after leaving the hospital the sinus had closed, but after some pain it reopened and continued to discharge. On October 12th she passed a small calculus by the urethra, and the sinus again closed; on October 24th, however, it again reopened.

October 26th.—The kidney was reopened by an incision through the old scar, but only a dilated pelvis was found. A second incision was therefore made at right angles to the first, extending nearly to the anterior superior iliac spine. The peritoneum was pushed forwards, and the dilated ureter traced over the brim of the pelvis, a stone being found close to the bladder. This was manipulated back to the kidney with the finger, and there removed by forceps. The whole wound was now sutured except for a tube put in near to the kidney.

The subsequent history of the case was satisfactory. She rallied well from the operation, and by November 22nd the wound was healed. She went out feeling thoroughly well on December 6th.

R. B., servant, æt. 20, was transferred from the medical

wards to Mr. Stonham's care on June 13th, with the history of recent aching pain in the right loin, and also swelling in this situation.

On examination there was a rounded swelling in the situation of the right kidney, extending below the level of the umbilicus; the urine was acid, and contained albumen and blood, sp. gr. 1014.

July 16th.—The kidney was exposed by an oblique lumbar incision, and opened; several small stones were removed, and a quantity of turbid urine escaped. The wound was then sutured, a drainage tube being inserted posteriorly.

The recovery of the patient was in every way satisfactory, the wound closing rapidly. She went out with the wound closed on July 8th, there being, however, still a faint trace of albumen in her urine.

Two Cases of Hernia Testis.—Castration.—Recovery.

G. D., male, æt. 28, was admitted under Mr. Stonham, January 3rd, 1898. He stated that, without any cause to which he could attribute it, and three months before admission, his left testicle began to increase in size. This increase continued without pain or other inconvenience till about three weeks before admission, when it was as large as his fist. He then began poulticing it, when a week later the skin burst, allowing the present swelling to appear. On examination the left testis was found to be about the size of a hen's egg, on the anterior surface of which, protruding through the skin, was a hernial projection an inch and a half in diameter. The cord was somewhat thickened, especially about the vas, but no other signs of importance were noted. The man said he had contracted syphilis eight years previously, but there were no signs of this to be found.

January 5th, 1898.—Castration was performed, from which he recovered without event, and was discharged well on January 27th. On examination of the organ after removal no evidence could be found of tubercle, syphilis, or new growth. The mass forming the hernia consisted mainly of inflammatory material with some testicular substance.

A. N., male, æt. 21, was admitted under Mr. Stonham on

November 7th, 1897, having five weeks previously had his left testis crushed by some machinery. This was followed by orchitis, which was clearing up, when three weeks ago he slipped down stairs and jammed the organ between his legs. This restarted the swelling, which increased till the skin gave way, leaving the present condition. On examination there was found an oval mass a little more than an inch across its main diameter, covered with a cake of dry discharge, and protruding through an ulcerated opening in the skin and continuous with the body of the testis.

The epididymis could be clearly felt, apparently of normal outline, posteriorly, while the cord was somewhat generally thickened.

Castration was performed on December 15th, the wound healing without event, and the man was discharged well on January 5th, 1898.

The parts removed presented no indication beyond inflammatory trouble.

Cystic Kidney.—Nephrectomy.—Recovery.

W. M., male, æt. 56, waiter, was admitted under Mr. Tubby on June 14th, 1897. He stated that he was quite well till two days before admission, when he noticed that his water was very dark in colour. Previously he has never suffered in any way from trouble with his urinary organs, though he has had occasional slight pain in both loins, except that about twelve years ago he passed, practically without pain or difficulty, a small calculus per urethram. On examination he appeared in every way a healthy man. Examination of the abdomen (which was adipose) was unsatisfactory owing to muscular resistance, but there seemed an ill-defined fulness in the left loin, which was not tender. Urine acid, 1012, with much blood in it. Microscopic examination of sediment showed only blood.

On the 16th June he was still passing plenty of blood.

On the 18th the abdominal wall was much more relaxed, and a distinct rounded swelling could be felt in the left loin in the situation of the kidney, the upper margin of which passed up under cover of the ribs. It was elastic in consistency, and dull to deep, but not to superficial, percussion.

June 22nd.—Patient ceased passing blood.

June 28th.—Kidney exposed by lumbar incision, and found to be cystic and too large for removal by this route, so the wound was closed. The wound healed without event, and he went out July 20th.

He was re-admitted on October 11th, 1897, having had no trouble since his discharge, and passed no blood.

The condition on examination was much as when in hospital before; the old wound was soundly healed. Urine normal and average in quantity and amount of urea.

October 18th.—An incision was made in the left linea semilunaris four inches long, opening the peritoneum; from the lower end of this a second transverse incision was made backwards, about three and a half inches long. The intestines being pushed to the right by sponges, the peritoneum over the kidney was incised vertically, and the organ loosened from its bed by tearing through the cellular tissue in which it lay; it was then somewhat reduced in size by tapping one of its cysts and brought out of the abdomen. The pedicle was then transfixed and tied in two parts, the ureter being omitted from these ligatures and tied separately. The wound was now closed by two layers of sutures, except at its posterior angle, where a gauze drain was inserted into the old kidney site.

The patient rallied well from the operation, and except for the fact that the edges of one of the flaps sloughed considerably, and therefore entailed some suppuration in the superficial parts of the wound, and caused some delay in its closure, the subsequent course of the case was without event.

The kidney, which is preserved in the museum, is about the size of a fœtal head, or a little larger. It consisted of a congeries of cysts of very variable size, from an orange downwards, the walls of which microscopically consisted of altered renal tissue and fibrous tissue lined by flattened epithelium. There was no evidence of new growth.

Multilocular Ovarian Cyst and Extra-Uterine Fœtation.—Removal of Both.—Recovery.

H. G., female, æt. 39, was admitted under Mr. Spencer on August 2nd, 1898. She stated that her abdomen first com-

menced to enlarge six years before, after a miscarriage at the sixth month; there was at that time a little abdominal tenderness, but she became generally stouter. During the last six months has got thinner generally, and for the last two has been treated for dropsy of her legs.

On examination the abdomen was found to be occupied by an elastic globular swelling, extending to midway between umbilicus and ensiform cartilage, which was dull to percussion, while the flanks were resonant in all positions of the patient. The tumour was uniformly smooth and fluctuating; no souffle to be heard, no fœtal parts felt. There was a little tenderness over one spot to right of tumour. The breasts contained a little secretion; no swelling of the legs. Per vaginam cervix pointed backwards, and scarcely admitted tip of index finger. Uterus seemed in front and to right of tumour. Catamenia commenced at 14, always scanty; no alteration since the tumour appeared. Urine acid, 1026; no albumen.

On September 13th hypogastric incision made, exposing the cyst, which was multilocular and without adhesions, and after tapping was easily drawn out of the abdomen. The left broad ligament was then found spread out widely over the base of the tumour, and was ligatured piecemeal. This exposed what seemed to be a continuation of the cyst; but on attempting to shell out this lowest portion, the wall ruptured and exposed an extra-uterine fœtation of old date containing a macerated two to three months fœtus and some blood clot; the whole was apparently quite aseptic, and was shelled out and removed. Apart from the ovarian pedicle, only one or two small branches of the uterine artery had to be tied. The uterus, except for a small myoma at the cervix, was normal. The abdomen was then washed out and closed.

Except for a little rise of temperature, the subsequent course of the case was perfectly satisfactory, and she went out well on October 12th, 1898.

Charcot's Disease of the Hip.—Suppuration.

A. A., male, æt. 47, agent, was admitted under Mr. Bond on September 25th, 1897, with the history that for some time

he had noticed shooting pains in his legs, and that he had occasionally had trouble with walking, staggering at times, especially in the dark, otherwise he was in good health till May, 1897, when he had a severe cold which he could not get rid of. In July he first began to have trouble with his left hip, which became painful and swollen, and caused him to limp when walking, so that in August he was laid up in bed. An opening was made and some fluid let out; the opening continued to discharge till admission. Recently he has had some difficulty in holding his urine.

On examination the left hip was found to be in a position of slight flexion, internal rotation and adduction; but movement was fairly free in every direction and painless. A thick mass of bone could be felt just over the acetabulum; below and near to this could be felt the head of the femur. The trochanter was very prominent, and there was a good deal of bone thrown up around it. There was also some shortening. In the middle of the thigh, on its outer side, was a sinus discharging large quantities of thin pus; temperature normal. The patient showed various signs of tabes dorsalis—*e.g.*, Argyll-Robertson pupil, absent knee-jerks, lightning pains, &c.

October 1*st*.—An incision was made into the hip, and much thin pus and debris let out, also some small fragments of bone and caseous material which, examined under the microscope, showed no special structure. The joint was found entirely disorganised, the head of the femur being much worn away, and new bone thrown up extensively round the acetabulum. It was washed out, and a drainage tube put in.

There was no rise of temperature after the operation, and the discharge gradually diminished till a sinus was left, and he went out on November 3rd, 1897, in much the same condition as on admission, but with much less discharge.

Concussion of the Spine and probable Hæmorrhage into the Spinal Canal.

J. C., male, æt. 32, miner, was admitted under Mr. Stonham on October 18th, 1898. He had been mining on the

electric railway that morning when about two tons of earth fell on his back; he was at once dug out, and brought to the hospital in a cab.

When admitted he was considerably collapsed, could not stand, and complained of great pain in his lumbar spine.

On examination there was no evidence of injury to be found externally; the spinal column was normal except for a little lumbar tenderness. Both legs, however, were anæsthetic to heat, cold, and common sensation, as far up as the knees; he was also unable to flex either knee or ankle, and could only move his toes very slightly. The knee-jerks were absent. Micturition was not affected.

On October 20th there was less pain in the spine, the knee-jerks had reappeared, and he was able to move the right foot slightly more than on admission.

On the 25th this improvement was still further continued, sensation gradually returning in the right leg and foot.

November 2nd.—There is still loss of sensibility from the knee to the ankle in both legs, the line of demarcation between normal and abnormal being very sharply marked above, but below, in both feet, in parts there is good sensation, in parts it is impaired or absent; it is better in the right than the left.

The same applies to motion, which is much better in the right than the left foot and leg.

On the 11th November he was able to get up and walk a little, though with difficulty.

He went out to Swanley on November 24th. The right leg then seemed normal, but there still remained a great deal of loss of sensation and weakness of the left leg, which he dragged a little as he walked. There was also a good deal of "feeling of weakness" of his lumbar spine.

He was heard of again in January, 1899. The power and sensation in his left leg still remained impaired.

MEDICAL REGISTRAR'S REPORT FOR THE YEAR 1897.

By Dr. PARKINSON.

Number of patients in the Hospital on Jan. 1st, 1897			64
,, ,, ,, Dec. 31st, 1897			74
Admitted to Medical Wards during year 1897			990
Of these—Males	555		
Females	435		
Average number of patients in Hospital during the year ...			83·9
Average stay in Hospital of each patient			...30·33 days
Recovered or relieved			808
Males	438		
Females	370		
Unrelieved, including those sent to Surgical or Obstetrical Wards			45
Males	30		
Females	15		
Died			127
Males	87		
Females	40		

The mortality during the year was 12·75 per cent.

Table A.

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex. Males.	Females.	Total.	Age. Under 5 yrs.	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.	Over 60.	Result. Death. M	F	Unrelieved. M	F	Relieved. M	F
General Diseases:																					
Group A:																					
Enteric fever	6	3	8	16	15	18	33	1	4	9	13	4	2	...	...	3	...	...	...	12	18
Scarlet fever	...	1	...	1	1	1	2	...	...	1	...	...	1	...	...	...	...	1	1	...	...
Diphtheria	4	10	4	6	11	13	24	15	6	1	2	...	...	...	...	1	5	...	1	10	7
Measles	...	1	2	1	2	2	4	4	...	...	...	...	...	...	...	1	...	...	...	1	2
Whooping cough	1	1	...	...	2	...	2	2	...	...	...	...	...	...	...	...	...	...	...	2	...
Erysipelas	...	2	...	1	3	...	3	1	...	...	...	...	...	1	1	1	...	...	...	2	...
Rötheln	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	1	4	1	...	6	...	6	...	...	1	2	2	...	1	...	...	...	...	...	6	...
Tetanus	...	1	...	...	...	1	1	...	...	...	...	...	...	1	...	...	1	...	...	...	...
Febricula	2	...	...	...	2	...	2	...	1	1	...	...	...	...	...	...	...	...	...	2	...
Pyæmia	...	1	...	1	2	...	2	1	...	...	...	...	...	1	...	2	...	...	...	...	...
Varicella	...	...	1	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...	1	...	...
Group B:																					
Alcoholic poisoning	1	1	2	2	5	1	6	...	...	1	1	...	4	...	...	1	...	...	...	4	1
Opium „	...	...	1	...	...	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Lead „	3	1	2	...	6	...	6	...	...	...	3	2	...	1	...	...	...	...	...	6	...
Morphia „	...	1	...	...	1	...	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...
Hydrochloric acid poisoning	...	...	1	...	...	1	1	...	...	...	...	1	...	...	...	...	...	...	...	...	1
Hydrocyanic acid poisoning	...	...	1	...	1	...	1	...	...	...	...	...	...	...	1	...	...	...	...	1	...
Oxalic acid poisoning	...	...	1	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Mussel poisoning	...	...	1	...	...	1	1	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Atropine „	...	...	1	..	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Chloral „	...	...	...	1	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1	...
White precipitate poisoning	...	...	...	1	...	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Tobacco poisoning	...	...	...	1	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Debility	...	...	...	1	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Marasmus	3	...	1	1	4	1	5	5	...	...	...	...	...	...	...	2	...	...	...	2	1
Congenital syphilis	1	1	...	...	1	1	2	2	...	...	...	...	...	...	...	1	...	...	...	...	1
Group D:																					
Acute rheumatism	11	15	9	14	23	26	49	...	1	18	16	10	3	...	1	...	1	...	...	23	25
Subacute „	6	1	1	1	1	8	9	...	...	2	4	2	1	...	...	...	...	...	...	1	8
Chronic „	1	...	...	2	2	1	3	...	...	...	...	2	1	...	...	...	...	...	...	2	1
Gonorrhœal „	1	1	3	...	4	1	5	...	...	...	4	1	...	...	...	...	...	...	...	4	1
Gout	4	1	2	...	6	1	7	...	...	...	1	...	5	...	1	...	...	...	...	6	1
Osteo-arthritis	1	...	4	...	1	4	5	...	...	...	...	...	1	3	1	...	...	...	...	1	4
Tuberculosis	13	2	3	6	13	11	24	13	2	1	2	...	5	1	...	8	4	...	2	5	4
Rickets	1	1	...	...	1	1	2	1	1	...	...	...	...	...	...	1	...	...	...	...	1
Anæmia	4	4	3	3	1	13	14	...	...	7	4	1	...	1	...	...	...	...	...	1	13
Lymphadenoma	1	1	...	...	1	1	2	...	...	...	1	1	...	...	...	...	...	1	1	...	...
Lardaceous disease	1	...	...	...	1	...	1	...	...	1	...	...	...	...	...	...	...	...	...	1	...

TABLE A—*continued.*

DISEASE.	Jan. to March.	April to June	July to Sept.	Oct. to Dec.	Sex.			Age.							Result.					
					Males.	Females.	Total.	Under 5 yrs.	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.	Over 60.	Death.		Unrelieved.		Relieved.	
																M	F	M	F	M	F
DISEASES OF THE NERVOUS SYSTEM:																					
Brain:																					
Hemiplegia	8	3	...	2	8	5	13	...	...	...	...	2	3	6	2	...	...	...	...	8	5
Cerebral hæmorrhage	...	...	1	2	2	1	3	...	...	...	...	...	2	...	1	1	...	...	...	1	1
„ softening	...	4	...	...	3	1	4	...	...	...	...	1	1	1	1	1	...	...	...	2	1
„ tumour	...	...	1	1	1	1	2	...	1	...	...	...	...	1	...	1	1	...	...	...	...
„ abscess	1	...	...	...	1	...	1	...	...	...	1	...	...	...	...	1	...	...	...	...	...
Meningitis	2	2	2	3	5	4	9	5	1	...	2	1	...	...	...	3	4	...	...	2	...
Hydrocephalus	2	...	1	...	2	1	3	...	...	...	...	...	...	...	...	1	1	...	...	1	...
Cerebral syphilis	1	...	...	...	1	...	1	...	...	...	...	1	...	...	...	...	...	..	...	1	...
Cord:																					
Acute myelitis	1	...	...	2	1	2	3	...	...	...	...	3	...	...	...	...	...	...	...	1	2
Anterior polio-myelitis	...	...	...	1	1	...	1	1	...	...	...	..	...	...	...	...	...	...	...	1	...
Locomotor ataxy	1	2	1	1	5	...	5	...	...	...	...	3	1	1	...	...	...	...	...	5	...
Disseminated sclerosis	...	...	2	...	1	1	2	...	...	...	...	2	...	...	...	...	...	...	...	1	1
Spastic paraplegia	3	2	...	...	4	1	5	...	...	...	...	...	2	...	...	..	...	1	...	3	1
Ataxic paraplegia	...	...	1	...	1	...	1	...	...	...	...	...	...	1	...	...	...	...	...	1	...
Spinal hæmorrhage	...	...	1	...	...	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Various:																					
Sciatica	1	1	1	2	4	1	5	...	...	...	...	2	1	2	...	...	...	...	...	4	1
Neuritis, alcoholic	1	1	2	2	1	5	6	...	...	...	...	3	3	...	...	...	...	...	...	1	5
„ diphtheritic	1	...	...	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1
„ peripheral	3	2	2	2	9	...	9	...	...	...	...	1	6	1	1	...	...	...	...	9	...
Bell's paralysis	1	...	1	...	2	...	2	1	...	1	...	...	...	...	...	...	...	..	...	2	...
Epilepsy	2	2	2	...	4	2	6	2	...	...	3	...	1	...	...	...	...	1	...	2	3
Chorea	4	7	7	4	8	14	22	...	5	17	...	...	...	...	...	...	...	...	...	8	14
Hysteria	2	1	...	1	.	4	4	...	1	1	...	2	...	...	...	...	...	...	...	...	4
Neuralgia	...	2	1	...	2	1	3	...	...	...	...	2	1	...	...	...	...	...	...	2	1
Convulsions	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bulbar paralysis	1	...	1	...	2	...	2	1	...	1	...	...	...	...	...	...	...	...	...	2	...
Pseudo-hypertrophic paralysis	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Migraine	...	...	1	...	1	...	1	...	...	1	...	...	...	...	...	...	...	...	...	1	...
Contractures	...	...	2	...	...	2	2	...	...	1	...	...	1	...	...	...	...	...	...	...	2
Idiocy	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Mania	1	...	...	...	...	...	...	...	...	...	...	...	.	...	...	...	...	...	...	...	...
General paralysis of the insane	...	1	...	2	3	...	3	...	...	...	...	...	2	1	...	..	...	1	.	2	...
Melancholia	...	1	...	...	...	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...	1
DISEASES OF THE CIRCULATORY SYSTEM:																					
Dilated heart	...	...	2	1	3	...	3	...	...	...	...	...	1	1	1	1	...	...	...	2	...
Fatty „	...	...	...	1	...	1	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...

TABLE A—*continued.*

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex. Males.	Females.	Total.	Age. Under 5 yrs.	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.	Over 60.	Result. Death. M	F	Unrelieved. M	F	Relieved. M	F
DISEASES OF THE CIRCULATORY SYSTEM—*continued.*																					
Ulcerative endocarditis	1	...	..	3	3	1	4	...	...	2	1	1	...	...	...	3	1	...	...	...	...
Pericarditis	...	3	1	1	5	...	5	...	3	1	...	...	...	...	1	2	...	...	...	3	...
Cardiac neuralgia	...	...	...	1	1	..	1	...	...	...	...	...	...	1	...	...	...	...	...	1	...
Mitral constriction	6	2	...	2	5	5	10	...	1	...	4	2	1	1	1	3	1	...	...	2	4
„ regurgitation	6	5	3	2	9	7	16	...	4	1	6	1	2	2	...	...	...	...	...	9	7
„ double	6	6	7	5	10	14	24	...	3	4	2	5	2	4	2	1	1	1	...	8	13
Aortic constriction	1	1	1	...	2	1	...	...	...	...	1	...	1	1	...	1	...	...	...	1	1
„ regurgitation	...	4	1	3	3	5	8	...	...	4	1	1	1	1	...	1	...	...	...	2	5
„ double	6	3	6	7	14	8	22	...	2	4	5	9	2	...	...	5	2	...	...	9	6
Tricuspid regurgitation	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	..
Thoracic aneurysm	2	3	1	1	7	...	7	...	...	...	...	1	3	3	...	1	...	3	...	3	...
Abdominal „	1	...	...	...	1	...	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...
Venous thrombosis	...	...	...	1	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Syncope	1	...	...	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1	...
DISEASES OF THE RESPIRATORY SYSTEM:																					
Acute laryngitis	...	1	...	...	1	...	1	...	...	...	...	...	1	...	...	...	...	1	...	...	...
Chronic „	1	...	...	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1	...
Tuberculous laryngitis	1	...	...	...	1	...	1	...	...	...	...	...	...	1	...	...	...	1	...	...	...
Cyst on vocal cord	...	1	..	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1	...
Acute bronchitis	3	...	1	2	4	2	6	3	1	...	1	...	1	...	...	...	...	...	...	4	2
Chronic „	11	11	3	6	19	12	31	9	4	3	1	2	4	5	3	...	...	...	...	19	12
Acute pneumonia	17	19	9	18	35	27	62	31	9	8	7	3	1	2	1	5	2	...	...	30	25
Broncho „	3	5	2	6	9	7	16	14	...	2	...	...	...	...	...	5	6	1	...	3	1
Phthisis	15	11	13	8	32	15	47	2	...	7	12	12	13	1	...	5	2	4	1	23	12
Emphysema	4	5	3	4	14	2	16	...	...	...	1	2	5	4	4	...	...	...	...	14	12
Asthma	...	1	...	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	1	...	...
Gangrene of lung	1	...	...	...	1	...	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...
Malignant gangrene	...	...	1	1	2	...	2	...	...	...	1	...	...	...	1	...	...	1	...	1	...
Pleurisy without effusion	3	4	3	2	8	4	12	...	1	2	2	3	1	2	...	...	...	...	...	8	4
Pleurisy with effusion	7	4	6	3	16	4	20	1	...	2	3	5	4	5	...	2	...	...	...	14	4
Empyema	1	2	2	3	7	1	8	2	4	...	1	...	1	...	...	2	...	5	1	...	...
Pneumothorax	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fibrosis of lung	2	2	...	...	3	1	4	...	...	...	2	...	2	...	...	...	...	...	...	3	1
Abscess of lung	1	...	...	...	...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Hæmoptysis	...	2	...	...	2	...	2	...	...	...	...	1	...	1	...	...	...	...	...	2	...
DISEASES OF THE DIGESTIVE SYSTEM:																					
Adenoids	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Stomatitis	2	...	...	1	1	2	3	1	1	...	1	...	...	...	...	...	...	...	...	1	2

TABLE A—*continued.*

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex. Males.	Females.	Total.	Age. Under 5 yrs	5–10.	10–20.	20–30.	30–40.	40–50.	50–60.	Over 60.	Result. Death. M	F	Unrelieved. M	F	Relieved. M	F
DIGESTIVE SYSTEM—*continued.*																					
Tonsillitis	4	4	6	8	7	10	17	4	4	4	3	1	...	1	...	...	...	...	...	10	17
Pharyngitis	2	...	..	1	1	2	3	1	...	...	...	...	2	...	...	...	...	...	...	1	2
Stricture of œsophagus	1	1	1	...	2	1	3	...	...	...	...	...	1	1	1	1	...	...	1	1	...
Acute gastritis	...	...	1	1	1	1	2	...	...	...	...	1	1	...	...	...	...	...	...	1	1
Gastric ulcer	9	9	8	4	2	28	30	...	...	2	17	11	2	...	...	...	...	...	...	2	28
„ cancer	1	1	2	3	5	2	7	...	...	...	...	...	2	2	3	2	...	4	1	...	1
„ dilatation	1	...	...	...	1	...	1	...	...	...	...	...	...	1	...	...	...	1	...	...	...
Vomiting	1	3	1	1	...	5	5	1	...	...	2	1	1	...	...	...	...	...	...	...	5
Dyspepsia	3	8	3	4	8	10	18	...	...	3	12	...	1	1	...	...	...	...	...	8	10
Diarrhœa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Constipation	2	7	10	4	8	15	23	...	2	6	3	5	2	3	2	...	...	...	...	8	15
Gastro-enteritis	5	...	5	1	8	3	11	7	2	6	1	5	1	3	2	2	...	...	...	6	3
Colic	2	2	...	...	1	3	4	...	...	2	2	...	...	...	...	...	...	...	...	1	3
Typhlitis	3	2	...	2	3	4	7	...	1	3	2	...	...	1	...	...	...	...	...	3	4
Enteritis	...	2	4	1	6	1	7	1	3	...	2	1	...	...	...	...	...	...	...	6	1
Colitis	1	...	...	2	2	1	3	...	...	...	1	...	...	2	...	...	1	...	...	2	...
Intestinal obstruction	...	2	...	...	2	...	2	...	...	...	1	...	...	...	1	...	...	...	...	2	...
Hæmatemesis	...	1	...	...	...	1	1	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Melæna	...	1	...	...	1	...	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...
Liver:																					
Enlarged liver	1	1	...	...	1	1	2	...	...	...	...	...	1	1	...	...	...	1	...	...	1
Cirrhosis of liver	3	6	6	8	14	9	23	...	...	...	...	5	9	9	...	3	1	...	...	11	8
Syphilis „	...	...	1	...	1	...	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...
Hydatid liver	...	...	...	1	1	...	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...
Jaundice	4	...	...	1	2	3	5	...	...	...	4	...	1	...	...	...	...	...	...	2	3
Gall stones	...	3	3	2	3	5	8	...	...	...	1	4	3	...	...	...	...	...	...	3	5
Multiple pylephlebitis	1	...	...	...	1	...	1	...	...	...	...	1	...	...	...	...	1	...	...	...	...
Cholecystitis	...	2	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Peritoneum:																					
Acute peritonitis	...	...	1	...	1	...	1	...	...	...	...	...	1	...	...	1	...	...	...	...	...
Chronic „	2	...	...	...	...	2	2	...	...	...	1	1	...	...	...	...	...	1	...	...	1
DISEASES OF GLANDS:																					
Lymphosarcoma	...	1	...	...	...	1	1	...	...	...	...	1	...	...	...	...	...	1	...	...	...
Exophthalmic goître	2	2	...	2	...	6	6	...	...	1	2	1	2	...	...	...	...	1	...	...	5
Myxœdema	...	...	...	1	...	1	1	...	...	...	...	...	1	...	...	...	...	...	...	...	1
DISEASES OF THE URINARY SYSTEM:																					
Acute nephritis	4	4	2	3	10	3	13	2	1	3	2	2	1	1	1	...	1	...	...	10	2
Chronic nephritis—																					
Large white kidney	9	7	5	4	15	10	25	...	...	...	7	7	3	8	...	3	3	...	...	12	7
Cirrhosis of the kidney	1	1	2	1	4	1	5	...	...	...	2	1	1	...	1	2	1	...	...	2	...

TABLE A—*continued.*

DISEASE.	Jan. to March	April to June.	July to Sept.	Oct. to Dec.	Sex.			Age.							Result.					
					Males.	Females.	Total.	Under 5 yrs.	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.	Over 60.	Death.		Unrelieved.		Relieved.	
																M	F	M	F	M	F
DISEASES OF THE URINARY SYSTEM—*continued.*																					
Chronic nephritis—																					
Movable kidney	1	...	...	...	...	1	1	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Hydronephrosis	...	1	...	...	1	...	1	...	...	...	...	...	...	1	...	1	...	...	...	...	...
Hæmaturia	1	...	...	...	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	1	...
Diabetes mellitus	1	3	...	3	4	3	7	...	...	1	2	1	3	...	...	2	...	1	1	1	2
Vesical calculus	1	...	...	...	1	...	1	...	...	1	...	...	...	...	...	...	...	...	...	1	...
DISEASES OF THE SKIN:																					
Erythema nodosum	1	...	...	1	2	...	2	2	...	...	...	...	...	...	...	...	...	...	...	2	...
Eczema	...	2	...	...	1	1	2	1	...	...	...	...	...	1	...	...	...	...	...	1	1
Simple erythema	...	1	...	...	...	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Purpura	...	2	...	3	3	2	5	1	1	1	1	1	...	...	...	1	...	...	...	2	2
Xanthelasma	...	...	1	...	...	1	1	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Scabies	...	...	1	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Pemphigus	...	...	...	1	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1
VARIOUS:																					
Nil	2	2	1	4	5	4	9	1	1	...	...	3	2	..	2	...	...	...	...	5	4
Abscess	2	1	...	...	2	1	3	1	...	...	2	...	...	...	...	...	...	...	...	2	1
Spinal caries	1	...	...	1	2	...	2	1	...	...	...	...	1	...	...	...	...	...	...	2	...
Septicæmia	...	1	...	...	...	1	1	...	...	...	...	1	...	...	...	...	1	...	...	...	...
Ovarian cyst	...	1	...	...	...	1	1	...	...	...	...	...	1	...	...	...	...	...	1	...	...
Obesity	...	1	1	...	1	1	2	...	...	1	...	...	1	...	...	...	...	...	...	1	1
Hernia	...	1	...	...	1	...	1	...	...	...	...	...	...	...	1	...	...	...	...	1	...
Ulcer	...	1	...	...	...	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Carcinoma of pancreas	...	1	...	...	1	...	1	...	...	...	...	...	...	...	1	1	...	...	...	...	...
Nasal polypus	...	1	...	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Œdema	...	...	1	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Parametritis	...	...	1	...	...	1	1	...	...	...	...	1	...	...	...	...	...	...	...	...	1
Lumbago	...	...	...	1	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1	...
Otitis media	...	...	...	1	1	...	1	...	...	1	...	...	...	...	...	...	...	...	...	1	...
Aural polypus	...	...	...	1	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	1	...

TABLE E.—*List of Deaths in the Medical Wards.*

	Males.		Females.
GENERAL DISEASES:			
Enteric fever	3	...	0
Diphtheria	1	...	5
Measles	1	...	0
Erysipelas	1	...	0
Tetanus	0	...	1
Pyæmia	2	...	0
POISONS:			
Alcoholic poisoning	1	...	0
NOT CLASSIFIED:			
Marasmus	2	...	0
Congenital syphilis	1	...	0
Acute rheumatism	0	...	1
Tuberculosis	8	...	4
Rickets	1	...	0
DISEASES OF THE NERVOUS SYSTEM:			
Cerebral hæmorrhage	1	...	0
„ softening	1	...	0
„ tumour	1	...	1
„ abscess	1	...	0
Meningitis	3	...	4
Hydrocephalus	1	...	1
DISEASES OF THE CIRCULATORY SYSTEM:			
Dilated heart	1	...	0
Fatty heart	0	...	1
Ulcerative endocarditis	3	...	1
Pericarditis	2	...	0
Mitral constriction	2	...	1
Double mitral disease	1	...	1
Aortic constriction	1	...	0
„ regurgitation	1	...	0
Double aortic disease	5	...	2
Thoracic aneurysm	1	...	0
DISEASES OF THE RESPIRATORY SYSTEM:			
Acute pneumonia	5	...	2
Broncho „	5	...	6
Phthisis	5	...	2
Gangrene of lung	1	...	0
Pleurisy with effusion	2	...	0
Empyema	2	...	0

	Males.		Females.
Diseases of the Digestive System:			
Stricture of œsophagus	1	...	0
Carcinoma of stomach	2	...	0
Gastro-enteritis	2	...	0
Colitis	0	...	1
Cirrhosis of liver	3	...	1
Acute peritonitis	1	...	0
Diseases of the Urinary System:			
Acute nephritis	0	...	1
Chronic nephritis—			
Large white kidney	3	...	3
Cirrhosis of kidney	2	...	1
Hydronephrosis	1	...	0
Diabetes mellitus	1	...	0
Various:			
Purpura	1	...	0
Septicæmia	0	...	1
Carcinoma of pancreas	1	...	0
Total	84	...	41

Name.	Month admitted.	Sex.	Age.	Previous health.	No. of days fever and H.T.	No. of days in Hospital.	Result.	Remarks.	Widal's reaction.
T. H.	Sept.	M.	21	Headache, back pains, followed by vomiting	23 days fever. H.T. 103 6	52	Recovery	Admitted 11th day. Systolic apex murmur. Abdomen very tender. Rash copious Spleen not made out. Bowels constipated. Good recovery.	Moderate typhoid reaction.
W. M.	May	M.	17	Headache, febrile pains	23 days fever. H.T. 104	55	Recovery	Admitted 2nd day. Bowels rather freely open. Fair rash. Relapse 3 days after temperature became normal, lasting 11 days.	Well-marked reaction.
J. M.	Jan.	M.	20	Weakness, anorexia, slight headache lasting one day	25 days fever. H.T. 102	38	Recovery	Abdomen not tender or distended. No rash. Spleen not enlarged. Bowels constipated.	? Enteric fever.
H. W.	May	M.	23	Headache, shivering pain in back	33 days. H.T. 103	43	Recovery	Admitted 9th day. Abdomen full and tender. Slight rash. Bowels constipated. Pulse got very dichrotic.	Slight typhoid reaction.
C. P.	Oct.	M.	33	Headache, anorexia, nausea, febrile pains	21 days. H.T. 102	55	Recovery	Admitted 14th day. Abdomen full, very tender. Slight rash. Spleen not felt. Bowels constipated.	No typhoid reaction.
A. W.	Aug.	M.	20	.....	H.T. 105·4	4	Died	Very delirious. Abdomen distended, not tender. Spleen felt. Diarrhœa.	No reaction.
T. B.	Oct.	M.	22	Slow onset, headache, fever, and anorexia	28 days. H.T. 104·2	14	Died	Admitted 22nd day. Very apathetic and deaf. Tremulous. Abdomen not distended. Spleen not felt. Numerous spots. Bowels open once each day, containing much altered blood.	Typhoid reaction.

Analysis of Cases of Enteric Fever, 1897—continued.

Name.	Month admitted.	Sex.	Age.	Previous health.	No. of days fever and H.T.	No. of days in Hospital.	Result.	Remarks.	Widal's reaction.
C. B.	May	M.	34	Severe vomiting and diarrhœa	56 days. H.T. 103·2	69	Relief	Admitted 7th day. Soft systolic apex murmur. Pulse dichrotic. No spots. Bowels constipated. Pleural effusion began on 16th day, cleared up in a month. Good recovery.	No typhoid reaction.
J. C.	April	M.	9	History unreliable	H.T. 104·6	69	Relief	Admitted 2nd week. Lay curled up in bed, resenting interference. Slight aural discharge. Abdomen full, no spots. Spleen felt. Constipation. Slight dry pleurisy Good recovery.	? Meningitis. Marked reaction.
J. E.	Sept.	M.	48	Headache, backache, constipation	17 days fever. H.T. 103·4	17	Relief	Admitted 8th day. No abdominal distension or tenderness. Spleen not felt. No rash. Slight rusty expectoration.	? Pneumonia. No typhoid reaction
W. G.	Dec. 1896	M.	45	Hæmoptysis, husky voice	24 days. H.T. 104	79	Relief	At first there were only laryngeal symptoms, with continued fever for 24 days. Bowels constipated, temperature was then normal for a week, then diarrhœa, rise of temperature for 32 days and a typical typhoid attack, the larynx then being normal. Good recovery.	Laryngotyphoid. Typhoid reaction marked during relapse.
T. M.	Oct.	M.	18	Headache, shivering, diarrhœa	26 days. H.T. 104·2	18	Death	Admitted 10th day. Abdomen distended, some tenderness. Spleen felt. Some spots. Diarrhœa. Two days before death began to pass much bright blood. This continue i till death, and he got very weak and anæmic.	Marked typhoid reaction.
W. P.	Sept.	M.	26	Shivering, vomiting, and abdominal pain	15 days. H.T. 104·2	58	Relief	Admitted 4th day. Signs of pneumonia left base. Abdomen distended. Spleen not felt. No spots. The lung signs were prominent all through, but disappeared in about a month.	Marked typhoid reaction.

E. S.	Nov.	M.	14	Abdominal pains constipation, and weakness	21 days fever. H.T. 103·4	46	Recovery	Admitted 12th day. Abdomen distended. Spleen not felt. A few spots. Bowels confined.	Typhoid reaction.
J. T.	Oct.	M	27	Pains in back. vomiting, and diarrhœa	25 days fever. H.T. 104	41	Relief	Admitted 9th day. Abdomen distended. Spleen not felt. A few spots. Bowels constipated. Slight rectal hæmorrhage. Good recovery.	Marked typhoid reaction.
F. B.	Sept. 1896	F.	29	Weakness and anorexia	67 days. H.T. 103·6	106	Relief	Admitted 10th day. Abdomen not distended. Spleen felt. A few spots. Bowels constipated. Urine $\frac{1}{10}$ albumen, which cleared up after the fever. There was much bronchitis, and also slight dry pleurisy. Good recovery.	Typhoid reaction.
A. G.	Aug.	F.	18	Headache, backache, and thirst	28 days fever. H.T. 103	73	Relief	Admitted 12th day. Abdomen full, scanty eruption. Spleen not felt. Diarrhœa.	Typhoid reaction.
C. M.	Nov. 1896	F.	31	Vomiting, followed by headache and constipation	25 days fever. H.T. 104·6	56	Relief	Admitted 11th day. Abdomen distended, scanty rash. Spleen felt. Constipation. Pulse dichrotic after first week.	Typhoid reaction.
A. du P.	April	F.	24	Epistaxis, weakness	29 days. H.T. 103·2	55	Relief	Admitted 14th day. Abdomen full, tender at first. Spleen felt. No spots seen. Bowels constipated. Femoral thrombosis came on a week after temperature became normal.	Typhoid reaction.
M. B.	May	F.	10	Anorexia, headache, diarrhœa	32 days. H.T. 103·4	56	Relief	Admitted 9th day. Abdomen distended. Spleen not felt. A few spots. Bowels constipated. After temperature got nearly normal it began to rise on 24th day, and this fever continued 10 days, no fresh spots, but tongue was freshly furred.	Well-marked reaction.
E. B.	May	F.	12	Sore throat, headache, and backache	29 days. H.T. 103·6	62	Relief	Admitted 8th day. Abdomen normal size, not tender. Spleen not felt. Two spots resembling typhoid rash. Much bronchitis. Very weak. First sound of heart towards 4th week. Bowels constipated.	Well-marked reaction.
B. K.	July	F.	12	Vomiting, shivering, diarrhœa	17 days. H.T. 104·2	42	Relief	Admitted 4th day. Abdomen full. One spot like typhoid rash. Spleen not felt. Bowels constipated.	Well-marked reaction.

Analysis of Cases of Enteric Fever, 1897—continued.

Name.	Month admitted.	Sex.	Age.	Previous health.	No. of days fever and H.T.	No. of days in Hospital.	Result.	Remarks.	Widal's reaction.
R. B.	Feb.	F.	10	Pains all over, epistaxis, vomiting.	28 days. H.T. 103·8	52	Relief	Admitted 9th day. Abdomen full, not tender. Spleen not felt. Moderate rash. Bowels constipated. Systolic apex murmur.	Good reaction.
A. C.	Nov. 1896	F.	12	Headache, epistaxis, diarrhœa	22 days. H.T. 105	130	Relief	Came in for chorea ; 14 days later temperature rose, diarrhœa began, and she had epistaxis and headache. Five days later and rash appeared on abdomen. Nine days after temperature had been normal a relapse lasting 13 days occurred. Three weeks after the temperature descended to normal double femoral thrombosis occurred.	Well-marked reaction.
A. S.	Jan.	F.	13	.....	22 days. H.T. 103·6	56	Relief	Admitted 2nd week in typhoid state. Abdomen distended. Spleen felt. Numerous spots. Bowels constipated. Much bronchitis.	Marked reaction.
S. W.	Feb.	F.	10	Nausea, vomiting, epistaxis, headache	H.T. 104	47	Relief	Admitted 3rd week. Abdomen normal. Spleen felt. Bowels constipated.	Reaction.
E. D.	Sept.	F.	33	Headache weakness, diarrhœa	24 days. H.T. 104·8	68	Relief	Admitted 8th day. Abdomen tender. Spleen felt. Slight diarrhœa in 2nd week, constipation later. Few spots. Relapse occurred after temperature had been normal a week, it lasted for 13 days. During relapse thrombosis of left femoral vein occurred.	Typhoid reaction.

A. O.	Oct.	F.	26	Headache, diarrhœa, sore throa	29 days. 103·4	H.T.	57	Relief	Admitted 11th day. Abdomen not distended or tender. Spleen not felt. A few typhoid spots. Bowels constipated. 3 days after temperature had become normal it rose again, this relapse lasted 9 days	Typhoid reaction
A. O.	Oct.	F.	21	Diarrhœa and headache, loss of strength	31 days. 103·4	H.T.	57	Relief	Admitted 15th day. Abdomen not distended or tender. A few spots. No enlargement of liver or spleen. Bowels constipated. The temperature had hardly reached normal when it rose again, this secondary fever lasting 11 days, and being accompanied by a fresh eruption.	Typhoid reaction.
E. F.	Oct.	F.	4½	Vomiting and diarrhœa	29 days. 104·2	H.T.	53	Relief	Admitted 12th day Abdomen distended, not tender. Spleen well felt. A few spots. Bowels constipated.	Typhoid reaction.
E. H.	Sept.	F.	23	Headache, weakness, anorexia	32 days. 103·8	H.T.	84	Relief	Admitted 15th day. Abdomen distended. Spleen felt. Some diarrhœa in 3rd week, afterwards constipation. Numerous spots. After the temperature had been normal nearly 3 weeks there was a week of fever, but no spots or other symptoms.	Typhoid reaction.
M. J.	Sept.	F.	26	Headache and backache, diarrhœa	25 days fever. H.T. 103·2		64	Relief	Admitted 11th day. Abdomen tender, not distended. Spleen not felt. Numerous eruption. Bowels constipated after fever, but diarrhœa during the fever.	Typhoid reaction.
E. C.	Oct.	F.	18	Headache, anorexia	22 days fever. H.T. 104·8		74	Relief	Admitted 4th day. Abdomen distended. Spleen felt. Bowels constipated. Seven days after temperature became normal a relapse occurred, the secondary fever lasting for 17 days.	Typhoid reaction.

Table F.—*Lobar Pneumonia.*

Sixty-two cases of lobar pneumonia were treated in the Hospital during the year 1897, which added to five previous years makes a total of 442 cases.

Ages.

	Under 5.	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.	Over 60.
1892 to 1896	67	47	67	90	59	33	14	6
1897	31	9	8	7	3	1	2	1
Total ...	98	56	75	97	62	34	16	7

	Males.	Females.
1892 to 1896	276	104
1897	35	27
Total ...	311	131

Numbers admitted in each Month.

	1892-96.	1897.	Total.		1892-96.	1897.	Total.
January	56	2	58	July	25	4	29
February ...	34	8	42	August	13	3	16
March	54	7	61	September ...	16	2	18
April	40	10	50	October.....	19	7	26
May.....	52	7	59	November ...	20	6	26
June	24	2	26	December.....	18	6	24

As in a previous report, I give the chief meteorological records month by month during the year. As was previously stated the prevalency of the disease does not seem to correspond with any particular meteorological condition.

As regards other ætiological points five patients had had previous attacks, in seven there was exposure to cold and wet. In only one was permanent albuminuria seen, and in only two cases did there seem any connection with alcoholic excess.

	1892-96.	1897.	Total.
Crisis took place in	262	55	317
Lysis „ „	67	7	74

Month.	Weather.	Temperature.	Barom. Pressure.	Rainfall.	Relative Humidity.	Wind.	Sunshine.
DEC., 1896 ..	Rainy, overcast	Average 39·2, usual average	29·79 —·166 of usual average	3·18 +1·07 above usual	91	Changeable, S., W., or S.W.	—3 below average
JAN., 1897 ..	Mild at first, later cold.....	Average 36·2, —2·1 below average	29·90 —·12 of usual	2· —·06 below average	90	E., N.E., chiefly variable	18 hours —7·7 below average
FEBRUARY ..	Changeable	Average 43·6, 3·6 above usual	30·113 +·117 of usual	2·27 +·63 above average	87	W., S.W., N.W.	28 hours 11·1 below average
MARCH	Rough, wet weather	45·9 average, 3·2 above usual	29·7 —·248 below usual	3·52 +2·09 above average	80	W., S.W., S.	97·9 hours +9·5 above average
APRIL	Changeable	47·4 average, —0·8 below average	29·86 —·036 below usual	1·98 +·28 above usual	81	S.E., S.W.	121·6 hours —8·1 below average
MAY	Changeable at beginning and end, fair in middle	53·1 average, —0·5 below average	29·98 +·006 above usual	1·39 —0·38 below usual	69	N.E., S.W.	245·3 hours +62·3 above average
JUNE	Very changeable. Frequent thunderstorms	61·9 average, +2 above average	30·024 +·023	1·71 —0·28 below average	77	N.E., S.W., W.	169·7 hours —9·7 below average
JULY	Fair and dry at first, unsettled later	65·2 average, +2·2 above average	30·032 +·097	·95 —1·53 below average	70	S.W., N.E.	252 hours +78·9 above average
AUGUST	Very changeable and rainy	61·4 average, +1·5 above average	29·856 —·095	2·97 +0·61 above average	80	S.W., W.	208·1 +41·1 above average
SEPTEMBER ..	Changeable. Frequent heavy rains	55·6 average, —2·5 below average	30·017 +·026	2·75 +·91 above average	85	W., N.E.	Below average
OCTOBER	Fair, mild, and dry. Fog and mist at end	51·8 average, +2·1 above average	30·8 +·271 above usual	·47 —2·35 below average	89	W., N.E., E.	Above average
NOVEMBER ..	On the whole, fine and warm		30·207 +·297 above usual	1·07 —1·24 below average	89	E., S.W.	Above average

Crisis occurring on

	1892-96.	1897.	Total.		1892-96.	1897.	Total.
1st day	1	0	1	9th day	30	5	35
2nd „	5	1	6	10th „	16	4	20
3rd „	7	0	7	11th „	10	0	10
4th „	28	3	31	12th „	5	0	5
5th „	30	4	34	13th „	1	0	1
6th „	42	6	48	14th „	2	1	3
7th „	49	5	54	15th „	1	0	1
8th „	34	3	37	16th „	3	0	3

The duration of the fever terminating by lysis was:—

Days.	1892-96.	1897.	Total.	Days.	1892-96.	1897.	Total.
5	1	0	1	15	2	0	2
6	3	1	4	16	1	0	1
7	10	0	10	17	0	0	0
8	12	0	12	18	0	2	2
9	6	2	8	19	0	0	0
10	7	1	8	20	1	0	1
11	6	0	6	21	1	0	1
12	3	0	3	22	1	0	1
13	4	0	4	23	1	0	1
14	5	1	6				

Cases admitted, in each group of three months.

	1892-96.	1897.	Total.		1892-96.	1897.	Total.
Jan. to March	144	17	161	July to Sept.	54	9	63
April to June	116	19	135	Oct. to Dec.	57	18	75

There were five deaths in the sixty-two cases, giving a percentage mortality of 7·24 for the year.

One male, aged 29, died on 9th day from delirium tremens.
„ „ „ 27, „ 6th „ asphyxia.
„ female „ 21, „ 21st „ empyema.
„ child „ $1\frac{4}{12}$, „ 9th „ double apical pneumonia.
„ „ „ $1\frac{8}{12}$, „ ? „ marasmus.

The signs of consolidation appeared on the right side in twenty cases and on the left in twenty-four, and on both sides in three cases. In eight cases the disease began at or near the apex, in the remaining fifty-four cases it was mostly basal.

The chief complications were:—

Pleural effusion in 1 case.
Hæmoptysis „ 1 „
Diarrhœa profuse „ 2 cases.
Empyema „ 1 case.

In one case apparently of simple pneumonia the fever was prolonged for four weeks.

There was temporary albuminuria in five cases.

SURGICAL REGISTRAR'S REPORT FOR THE YEAR 1897.

By E. PERCY PATON, M.S., M.D.

The total number of cases under treatment in the Surgical Wards during 1897 was 1,417, viz.:—

	Males.	Females.	Total.
Remaining in hospital December 31st, 1896	53	30	83
Admitted during the year 1897	833	501	1,334
	886	531	1,417
Of these there were:			
Discharged, cured, or relieved	805	467	1,272
Died	36	24	60
Transferred to Medical Wards	3	0	3
In hospital, December 31st, 1897	42	40	82
	886	531	1,417

The death rate per cent. has been 4·23.

Statistical tables of Diseases, Injuries, and Operations, with a table of Infectious Diseases admitted into or occurring in the Surgical Wards during 1897.

TABLE I.—DISEASES.

DISEASES.	Total.	Sex.		Age.							Result.		Remarks.
		M.	F.	−5	−10	−20	−30	−40	−50	−60	+60	R.	D.	
GENERAL DISEASES:														
Pyæmia—														
Acute	1	1	...	...	...	...	...	...	...	...	1	...	1	Died from pyæmic pneumonia. The source of infection was a ragged wound in the upper jaw left from removal of a sarcoma at another hospital.
Chronic	1	1	...	...	...	1	...	...	...	...	...	1	...	
Erysipelas, cellulo-cutaneous	4	1	3	2	1	...	...	...	1	...	...	4	...	
Gangrene	2	1	1	...	...	1	...	...	...	1	...	1	1	Died of diabetes.
VENEREAL DISEASE:														
Syphilis, congenital	5	5	...	1	3	1	...	...	...	...	...	5	...	
,, acquired	10	3	7	...	...	1	3	...	4	1	1	10	...	
Warts	1	1	...	...	...	1	...	...	...	...	...	1	...	
LOCAL DISEASES:														
Tumours:														
Epithelioma—														
Lip	2	2	...	...	...	...	...	...	1	...	1	2	...	
Cheek	4	4	...	...	...	...	...	1	...	2	2	5	...	
Tongue	3	2	1	...	...	...	...	1	...	1	1	3	...	
Palate	1	1	...	...	...	...	1	...	...	...	...	1	...	
Fauces	1	1	...	...	...	...	...	1	...	...	...	1	...	
Antrum	1	...	1	...	...	...	...	...	...	1	...	1	...	
Œsophagus	3	1	2	...	...	...	...	...	...	2	1	1	2	One died after gastrostomy. One of septic pneumonia (no operation).

Bladder	2	2	...	...	...	...	...	...	...	...	2	...	2	One died 16 days after suprapubic, and one 6 days after perineal drainage.
Penis	1	1	...	...	...	...	...	...	...	...	1	1	...	
Prepuce	1	1	...	...	...	...	...	...	...	1	...	1	...	
Hand	1	1	...	...	...	...	...	1	...	...	...	1	...	
Rodent ulcer:	3	3	...	...	...	...	...	1	...	1	1	3	...	
Carcinoma:														
Breast, primary	13	...	13	...	...	...	...	...	3	4	6	13	...	
„ recurrent	3	...	3	...	...	...	...	...	...	1	2	3	...	
Axillary glands	2	...	2	...	...	...	...	1	1	...	...	2	...	
Stomach	5	4	1	...	...	...	...	...	...	5	...	2	3	Two of asthenia. One of rupture of the ulcer.
Uterus	1	...	1	...	...	...	...	...	...	1	...	1	...	
Ovary	1	...	1	...	...	...	...	...	...	1	...	1	...	
Testis	1	1	...	...	...	...	...	...	1	...	...	1	...	
Rectum	9	8	1	...	...	...	...	1	3	2	3	8	1	Died 13 days after colotomy.
Sarcoma:														
Nasal cavities	1	...	1	...	1	...	...	...	...	...	...	1	...	
Subglottic	1	...	1	...	...	...	...	...	1	...	...	...	1	Died of recurrence after excision of larynx.
Shoulder	1	1	...	...	...	...	...	...	1	...	...	1	...	
Chest wall	2	2	...	1	...	...	...	...	1	...	...	1	1	After removal, of shock.
Broad ligament	1	...	1	...	...	...	...	1	...	...	...	1	...	
Tibia	1	1	...	...	...	1	...	...	...	...	...	1	...	
Femoral glands	1	...	1	...	...	...	...	...	...	1	...	1	...	It became generalised, and she died in University College Hospital in a few months.
Cysts:														
Dermoid	2	...	2	...	1	...	...	...	1	...	...	2	...	
Sebaceous	2	1	1	...	...	1	1	...	...	...	...	2	...	
Ovarian	3	...	3	...	...	...	1	1	...	1	...	3	...	
Dental	1	1	...	...	...	1	...	...	...	...	...	1	...	
Mucous	1	...	1	...	...	...	1	...	...	...	...	1	...	
Hydatid	1	1	...	...	...	...	...	...	1	...	...	...	1	1 intestinal obstruction and collapse.

TABLE I.—*continued.*

DISEASES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
LOCAL DISEASES—*continued.*														
Other tumours:														
Fibromata	3	1	2	...	...	1	2	...	...	...	...	3	...	
Papillomata	2	...	2	...	...	...	1	1	...	...	...	2	...	
Exostosis	3	1	2	...	...	1	1	1	...	...	...	3	...	
Lipoma	5	1	4	...	...	...	...	4	1	...	...	5	...	
Nævi	5	1	4	2	...	2	...	1	...	...	...	5	...	
Enchondromata	2	1	1	1	...	1	...	...	...	...	..	2	...	
Mixed parotid tumour	2	...	2	...	...	1	...	1	...	...	...	2	...	
Fibro-adenoma, breast	2	...	2	.	...	...	1	1	...	...	...	2	...	
Sero-cystic disease, breast	2	...	2	...	...	...	...	...	2	...	...	2	...	
Duct papilloma, breast	1	...	1	...	...	...	..	...	1	...	...	1	...	
MALFORMATIONS AND DEFORMITIES:														
Harelip	4	1	3	4	...	...	...	...	...	...	...	3	1	Died of pyæmia and bronchitis after removal of premaxillary bone.
Cleft palate	2	...	2	2	...	...	...	...	...	...	...	2	...	
Torticollis	1	...	1	...	...	1	...	...	...	...	...	1	...	
Lateral curvature, spine	2	...	2	...	...	2	...	...	...	...	...	2	...	
Spina bifida	2	...	2	2	...	...	...	...	...	...	...	1	1	Died of bronchitis.
Dupuytren's contraction	1	1	...	...	...	...	...	...	1	...	...	1	...	
Contracted fingers	2	2	...	...	...	1	1	...	...	...	...	2	...	
Webbed fingers	1	1	...	1	...	...	...	...	...	...	...	1	...	
Congenital dislocation, hip	1	...	1	...	1	...	...	...	...	...	...	1	...	
Genu valgum	2	2	...	2	...	...	...	...	...	...	...	2	...	

Bow legs	3	1	2	3	...	...	...	...	...	...	...	3	...	
Talipes equinus	1	1	...	...	...	...	...	...	1	...	...	1	...	
„ equino varus	4	4	...	3	...	1	...	...	...	...	...	4	...	
Pes planus	5	1	4	...	...	...	3	2	...	...	...	5	...	
Pes cavus	1	1	...	...	...	...	1	...	...	...	...	1	...	
Hallux valgus	2	...	2	...	...	..	...	1	...	1	...	2	...	
Hammer toe	6	...	6	...	...	3	2	...	...	1	...	6	...	
Absent vagina	1	...	1	1	...	...	...	...	...	...	...	1	...	
DISEASES OF THE NERVOUS SYSTEM:														
Hydrocephalus	1	1	...	1	...	...	...	...	...	...	...	1	...	
Meningocele	1	...	1	1	...	...	...	...	...	...	...	...	1	Died 5 days after removal.
Cerebral tumour	1	...	1	...	...	1	...	...	...	...	...	1	...	
Persistent headache	1	1	...	...	...	...	1	...	...	...	...	1	...	
Cerebro-spinal meningitis	1	1	...	...	1	...	...	...	...	...	...	...	1	Died of meningitis; no evidence of tubercle.
Paraplegia	1	1	...	...	...	...	...	1	...	...	...	1	...	
Neuritis	1	...	1	...	...	...	...	...	1	...	...	1	...	
Neuralgia	2	2	...	...	...	...	...	...	2	...	...	2	...	
Sciatica	1	1	...	...	...	...	...	...	1	...	...	1	...	
DISEASES OF THE EYE:														
Emphysema of eyelid	1	1	...	...	...	1	...	...	...	...	...	1	...	
Conjunctivitis	2	2	...	1	...	...	1	...	...	...	...	2	...	
Strabismus, internal	1	1	...	...	...	1	...	...	...	...	...	1	...	
„ external	2	...	2	...	...	1	1	...	...	...	...	2	...	
Iritis	1	1	...	...	...	1	...	...	...	...	...	1	...	
Cataract	1	...	1	...	...	...	...	...	...	...	1	1	...	
DISEASES OF THE EAR:														
Suppurative otitis media	19	10	9	2	4	9	2	2	...	...	...	16	3	One of cerebral abscess. Two of meningitis.
Mastoid disease	2	1	1	...	2	...	...	...	...	...	...	2	...	
Polypus	3	...	3	...	...	...	1	...	2	...	...	3	...	
Deafness, (?) cause	1	...	1	...	...	1	...	...	...	...	...	1	...	

TABLE I.—*continued.*

DISEASES.	Total.	Sex.		Age.							Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
DISEASES OF THE NOSE:														
Epistaxis	6	3	3	...	...	1	...	1	1	1	2	6	...	
Enlarged turbinals	5	3	2	...	...	5	...	...	...	...	...	5	...	
Polypi	1	1	...	...	...	...	...	1	...	...	...	1	...	
Empyema of antrum	1	1	...	...	...	...	...	...	1	...	...	1	...	
„ frontal sinuses	2	...	2	...	...	...	...	2	...	...	...	2	...	
DISEASES OF THE PHARYNX AND LARYNX:														
Adenoids	20	6	14	3	5	11	1	...	...	...	...	20	...	
Tonsillitis	4	2	2	...	...	1	2	1	...	...	...	4	...	
Ulceration of palate	1	...	1	...	...	...	...	...	1	...	...	1	...	
Lupus „	1	1	...	...	...	...	1	...	...	...	...	1	...	
Malignant disease	1	1	...	...	...	...	...	...	...	...	1	1	...	
Perichondritis of larynx	3	1	2	...	...	...	...	2	1	...	...	3	...	
Tubercle of larynx	1	1	...	...	...	1	...	...	...	...	...	1	...	
DISEASES OF THE THYROID GLAND:														
Exophthalmic goitre	1	...	1	...	...	...	1	...	...	...	...	1	...	
Thyreo-glossal sinus	1	1	...	...	...	1	...	...	...	...	...	1	...	
DISEASES OF THE CHEST:														
Empyema	9	7	2	...	3	...	2	1	3	...	...	9	...	
Bronchiectasis	1	1	...	...	...	...	1	...	...	...	...	1	...	
Pleurisy	1	1	...	...	...	...	...	...	1	...	...	1	...	

Diseases of the Vascular System:													
Arteries:													
Popliteal aneurysm	2	2	...	...	...	...	...	2	...	...	...	2	...	
Veins:													
Varicose	36	21	15	...	...	2	22	4	8	...	...	36	...	
Varicocele	16	16	...	...	...	4	9	3	...	...	...	15	1	Died of sloughing phagedena of scrotum.
Phlebitis	2	...	2	...	...	...	1	...	...	...	1	2	...	
Thrombosis	2	1	1	...	...	...	1	...	...	...	1	2	...	
Diseases of the Lymphatic System:													
Lymphadenoma	5	1	4	...	...	...	...	1	3	1	...	4	1	Of exhaustion.
Enlarged glands	6	3	3	...	...	...	...	3	...	3	...	6	...	
Tuberculous glands	21	11	10	3	2	10	2	4	...	...	...	21	...	
Lymphangitis	2	1	1	...	...	...	...	2	...	...	...	2	...	
Diseases of the Digestive Tract:													
Mouth:													
Ulcerative stomatitis	1	...	1	...	1	...	...	...	...	...	...	1	...	
Ranula	1	...	1	...	...	...	...	1	...	...	...	1	...	
Liver:													
Biliary colic	2	1	1	...	...	...	1	...	1	...	...	2	...	
Hepatic pylephlebitis	1	1	...	...	...	...	1	...	...	...	...	...	1	Died of gradual exhaustion and emaciation.
Large gall bladder	1	...	1	...	...	..	...	1	...	...	...	1	...	
Intestinal obstruction	3	2	1	...	2	1	...	...	...	...	...	1	2	Both died of acute peritonitis.
Appendicitis	1	...	1	...	...	...	...	...	...	...	1	...	1	Died after colotomy.
Intussusception	1	1	...	1	...	...	...	...	...	...	...	...	1	A few hours after intestinal anastomosis, gut gangrenous.
Peritonitis	3	1	2	...	...	...	...	1	1	1	...	...	3	One perforating gastric, one perforating duodenal, one perforating typhoid ulcer.
Old artificial anus	1	...	1	...	...	...	...	...	1	...	...	1	...	

TABLE I.—*continued.*

DISEASES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
DISEASES OF THE DIGESTIVE TRACT—*continued.*														
Hernia:														
Reducible inguinal	38	36	2	14	...	7	6	3	...	5	1	38	...	
,, femoral	2	2	...	...	...	...	1	...	...	...	1	2	...	
,, umbilical	1	1	...	1	...	...	...	...	...	...	...	1	...	
,, interstitial	1	1	...	1	...	...	...	...	...	...	...	1	...	
,, ventral	1	...	1	...	...	...	...	...	1	...	...	1	...	
Irreducible inguinal	11	10	1	1	...	...	4	3	...	3	...	11	...	
,, femoral	1	1	1	...	...	...	...	1	...	...	1	2	...	
,, umbilical	1	1	2	...	...	...	...	1	...	2	...	2	1	Died after operation for radical cure.
,, ventral	4	...	4	...	...	...	...	1	3	...	...	4	...	
Strangulated inguinal	7	7	...	1	...	...	2	...	1	1	1	7	...	The age of one case doubtful.
,, femoral	2	...	2	...	...	...	...	...	...	1	1	1	1	One admitted moribund.
,, umbilical	1	...	1	...	...	...	...	...	...	1	...	1	...	
Cystic hernial sac	2	2	...	...	...	...	1	...	1	...	...	2	...	
Rectum and anus:														
Pruritis	1	...	1	...	...	...	...	1	...	...	...	1	...	
Polypus	1	1	...	...	...	...	...	...	...	...	1	1	...	
Prolapse	4	1	3	4	...	...	...	...	...	...	...	3	1	Died of diarrhœa.
Stricture, fibrous	1	...	1	...	...	...	1	...	...	...	...	1	...	
Piles	18	11	7	...	...	...	3	7	3	4	1	18	...	
Fistula	16	13	3	...	...	...	6	2	7	1	...	16	...	
Fissure	9	3	6	...	...	...	4	3	1	1	...	9	...	

DISEASES OF URO-GENITAL SYSTEM:														
Urethra:														
Stricture	28	28	...	...	...	1	3	7	9	6	1	28	...	
Extravasation of urine	1	1	...	...	...	...	..	...	...	...	1	1	...	
Caruncle	1	1	...	...	...	...	...	...	...	1	...	1	...	
Bladder:														
Stone	2	2	...	...	...	...	...	...	1	1	...	2	...	
Tubercle	1	1	...	...	...	...	...	1	...	...	...	1	...	
Cystitis	1	1	...	...	1	...	...	...	...	...	...	1	...	
Irritability, (?) cause	3	3	...	1	...	...	1	1	...	...	...	3	...	
Kidney:														
Nephritis	1	1	...	...	...	...	...	1	...	...	...	...	1	Died of uræmia.
Tuberculous	2	2	...	...	...	...	1	1	...	...	...	2	...	
Cystic	2	2	...	...	...	...	...	...	...	2	...	2	...	The same patient was in twice.
Hydronephrosis	1	...	1	...	...	...	1	...	...	...	...	1	...	
Moveable	4	...	4	...	...	...	1	3	...	...	...	4	...	
Calculus	3	2	1	...	...	...	...	3	...	...	...	3	...	
Renal colic	1	1	...	...	...	...	...	...	...	1	...	1	...	
Penis:														
Phimosis	15	15	...	3	...	6	5	1	...	...	...	15	...	
Paraphimosis	1	1	...	...	...	1	...	..	...	...	...	1	...	
Epispadias	1	1	...	1	...	...	...	...	...	...	...	1	...	
Prostate:														
Enlarged	8	8	...	...	...	...	...	...	...	...	8	7	1	Died of uræmia.
Tumour of (?)	1	1	...	...	...	...	1	...	...	...	...	1	...	
Spermatic cord:														
Hydrocele of	2	2	...	1	...	1	...	...	...	...	...	2	...	
Tunica vaginalis:														
Hydrocele	6	6	...	...	...	2	3	1	...	...	...	6	...	

TABLE I.—*continued.*

DISEASES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
DISEASES OF URO-GENITAL SYSTEM—*continued.*														
Testes and epididymis:														
Cyst of	2	2	...	...	...	...	...	2	...	...	...	2	...	
Tubercle	3	3	...	...	...	1	...	...	2	...	...	3	...	
Undescended	2	2	...	...	1	1	...	...	...	...	...	2	...	
Incontinence of urine	3	2	1	...	1	2	...	...	...	...	...	3	...	
Retention of urine	1	...	1	...	...	...	...	...	...	1	...	1	...	
Pyuria	1	1	...	...	...	...	...	...	...	1	...	1	...	
Ruptured perinæum	1	...	1	...	...	...	...	...	...	1	...	1	...	
Vesico-vaginal fistula	1	...	1	...	...	...	...	1	...	...	...	1	...	
Vaginitis	1	...	1	...	...	...	...	1	...	...	...	1	...	
Parametritis	1	...	1	...	...	...	...	1	...	...	...	1	...	
Pyosalpinx	1	...	1	...	...	...	...	1	...	...	...	...	1	Died of general peritonitis after rupture.
DISEASES OF THE BREAST:														
Hypertrophy	1	...	1	...	...	...	...	...	1	...	...	1	...	
Interstitial mastitis	4	1	3	...	...	...	...	1	...	3	...	4	...	
Galactocele	1	...	1	...	...	...	...	...	1	...	...	1	...	
DISEASES OF THE ORGANS OF LOCOMOTION:														
Bone, diseases of:														
Periostitis and osteitis of:														
Skull	1	1	...	...	...	...	...	1	...	...	...	1	...	
Frontal bone	2	...	2	...	...	...	2	...	...	...	...	2	...	

Jaw	4	3	1	1	1	1	...	1	...	...	...	4	...	
Humerus	2	1	1	...	...	1	...	1	...	...	...	2	...	
Ulna	1	...	1	...	...	...	...	1	...	...	...	1	...	
Femur	2	1	1	...	...	1	...	...	...	...	...	2	...	
Tibia	8	5	3	...	1	...	5	...	1	1	...	8	...	
Caries and necrosis of:														
Skull	1	...	1	...	...	...	...	...	1	...	...	1	...	
Temporal bone	1	...	1	...	...	...	...	1	...	...	...	1	...	
Malar	1	1	...	...	...	1	...	...	...	...	...	1	...	
Nasal bones	1	1	...	...	...	1	...	...	...	...	...	1	...	
Jaw	6	3	3	...	3	...	...	3	...	...	...	6	...	
Spine	11	6	5	2	4	3	...	1	1	...	...	10	1	Died of empyema and exhaustion.
Sternum	1	...	1	...	...	...	...	...	1	...	...	1	...	
Ribs	4	3	1	...	...	...	...	...	...	3	1	4	...	
Scapula	1	1	...	1	...	...	...	...	...	...	...	1	...	
Humerus	1	1	...	...	1	...	...	...	...	...	...	2	...	
Radius	1	1	...	1	...	...	...	...	...	...	...	1	...	
Phalanges	5	2	3	3	2	...	...	...	...	...	...	4	1	Died of tuberculosis.
Ilium	1	1	...	...	1	...	...	...	...	...	...	1	...	
Femur	2	2	...	...	...	...	1	1	...	...	...	1	...	
Tibia	4	4	...	1	...	1	1	...	...	1	...	4	...	
Os calcis	1	1	...	...	...	...	1	...	...	...	...	1	...	
Metatarsal	2	...	2	...	...	1	1	...	...	...	...	1	1	Died of tuberculous meningitis.
Abscess in bone:														
Lower jaw	1	1	...	...	1	...	...	...	...	...	...	1	...	
Tibia	2	2	...	...	...	...	2	...	...	...	...	2	...	
Acute epiphysitis	3	3	...	2	1	...	...	...	...	...	...	3	...	
Chronic „	2	2	...	2	...	...	...	...	...	...	...	2	...	
JOINTS (DISEASES OF):														
Synovitis:														
Shoulder	2	2	...	...	...	...	...	...	2	...	...	2	...	
Hip	1	1	...	...	...	...	1	...	...	...	...	1	...	

Table I.—*continued.*

DISEASES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
JOINTS (DISEASES OF)—*continued.*														
Synovitis—continued.														
Knee	12	10	2	...	...	1	4	2	2	2	1	12	...	
Ankle	1	...	1	...	...	...	1	...	...	...	...	1	...	
Gonorrhœal synovitis	4	3	1	...	...	1	1	1	1	...	...	4	...	
Tuberculous disease:														
Shoulder	1	1	...	...	...	...	1	...	...	...	...	1	...	
Elbow	3	1	2	...	...	2	...	...	1	...	...	3	...	
Wrist	1	1	...	...	...	...	...	...	1	...	...	1	...	
Sacro-iliac	1	1	...	...	...	...	...	1	...	...	...	1	...	
Hip	20	15	5	2	7	6	1	2	2	...	...	18	2	One died of amyloid disease. One of exhaustion after excision.
Knee	5	3	2	...	...	4	1	...	...	...	...	5	...	
Ankle	2	1	1	...	...	...	...	1	...	...	1	2	...	
Tarsus	1	...	1	...	...	1	...	...	...	...	...	1	...	
Acute arthritis, knee	1	1	...	1	...	...	...	...	...	...	...	1	...	
Internal derangement, knee	1	1	...	...	...	1	...	...	...	...	...	1	...	
Osteo-arthritis	2	2	...	...	...	...	...	...	2	...	...	2	...	
Charcot's disease	1	1	...	...	...	...	...	...	1	...	...	1	...	
Acute rheumatism	1	...	1	...	...	1	...	...	...	...	...	1	...	
Ankylosis:														
Hip	1	1	...	...	...	1	...	...	...	...	...	1	...	
Shoulder	1	1	...	...	1	...	...	...	...	...	...	1	...	
Elbow	4	...	4	...	3	...	...	...	...	1	...	4	...	

DISEASES OF FASCIÆ, TENDONS, AND BURSÆ:														
Enlarged bursæ	21	6	15	...	...	2	6	3	4	5	1	20	1	Died 10 minutes after cessation of anæsthetic. Fatty degeneration of heart.
Suppurating bursæ	6	2	4	...	...	1	3	1	...	1	...	6	...	
Contracted tendons	1	...	1	...	...	...	1	...	...	...	...	1	...	
Divided „	1	1	...	...	...	1	...	...	...	...	...	1	...	
Ganglion	6	4	2	...	...	1	2	...	2	1	...	6	...	
DISEASES OF THE CELLULAR TISSUE.—ABSCESS, INFLAMMATION AND SUPPURATION:														
Abscesses:														
Head and neck	61	33	28	17	7	13	14	4	6	...	...	60	1	Died of meningitis.
Mastoid	2	...	2	...	...	1	1	...	...	...	...	2	...	
Extradural	1	...	1	...	...	...	1	...	...	...	...	1	...	
Upper extremity	19	11	8	4	2	6	3	...	3	1	...	19	...	
Lower extremity	10	8	2	3	4	2	1	...	...	...	...	9	1	Died of asthenia and thrombosis of cerebral sinuses.
Whitlow	12	8	4	1	1	2	5	2	1	...	...	12	...	
Mammary	9	...	9	...	...	2	4	1	2	...	...	9	...	
Chest wall	2	2	...	1	...	...	...	...	...	...	1	2	...	
Abdominal wall	5	2	3	...	...	3	1	...	1	...	...	5	...	
Psoas	3	3	...	...	...	1	...	...	...	2	...	3	...	
Lumbar	1	...	1	...	...	1	...	...	...	...	...	1	...	
Ischio-rectal	11	9	2	...	1	...	5	4	1	...	...	11	...	
Perineal and groin	26	24	2	...	...	4	18	2	1	1	...	26	...	
Pericæcal	1	1	...	...	...	1	...	...	...	...	...	1	...	
Parametric	2	...	2	...	...	...	2	...	...	...	...	2	...	
Cellulitis	30	20	10	1	...	6	9	5	5	2	2	28	2	One died of pyæmia. One of asthenia.
Sloughing phagedena	3	2	1	2	...	...	...	...	...	...	1	...	3	One of septicæmia. Two of exhaustion.
Carbuncle	4	3	1	...	...	...	1	...	2	...	...	4	...	

TABLE I.—*continued.*

DISEASES.	Total.	Sex.		Age.								Result.		Remarks.
		M	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
DISEASES OF SKIN, &c.														
Erythema	1	...	1	...	...	...	1	...	...	...	...	1	...	
Erythema scarlatiniforme	1	1	...	...	...	...	...	1	...	...	...	1	...	
Eczema	2	...	2	...	...	...	...	...	1	1	...	2	...	
Scleroderma	1	1	...	...	1	...	...	...	...	...	...	1	...	
Urticaria	1	1	...	...	...	...	...	...	...	1	...	1	...	
Lupus	3	...	3	...	...	3	...	...	...	...	...	3	...	
Tubercle of	2	...	2	...	...	1	1	...	...	...	...	2	...	
Hypertrophied toe-nails	2	1	1	...	...	1	1	...	...	...	...	2	...	
Ingrowing toe-nail	3	1	2	...	...	1	...	1	...	...	1	3	...	
Suppurating corn	2	2	...	...	...	...	...	1	...	...	...	2	...	
Painful scar	3	1	2	...	...	1	2	...	...	...	...	3	...	
Sinuses	14	8	6	...	2	...	5	2	2	2	1	14	...	
Ulcer	5	2	3	...	1	1	...	...	1	1	1	5	...	
Perforating ulcer	1	1	...	...	...	...	...	1	...	...	...	1	...	
UNCLASSIFIED:														
Pregnancy	1	...	1	...	...	...	1	...	...	...	...	1	...	
Constipation	1	...	1	...	...	1	...	...	...	...	...	1	...	
Abdominal pain	1	1	...	...	...	...	...	1	...	...	...	1	...	
Swallowing foreign bodies	5	2	3	3	...	1	1	...	...	...	...	5	...	
Buried needles	2	...	2	1	...	...	...	1	...	...	...	2	...	
Œdema of forearm	1	1	...	...	...	...	1	...	...	...	...	1	...	
Lumbago	1	1	...	...	...	...	...	1	...	...	...	1	...	
Dental caries	1	...	1	...	...	...	1	...	...	...	...	1	...	
Idiocy	1	1	...	...	1	...	...	...	...	..	...	1	...	
Attempted suicide	2	1	1	...	...	...	1	1	...	...	...	2	...	
Nihilitis	1	...	1	...	...	...	...	1	...	...	...	1	...	

TABLE II.—INJURIES.

INJURIES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
GENERAL INJURIES:														
Burns	11	5	6	2	1	...	2	2	2	1	1	8	3	One of pneumonia. Two of shock.
Scalds	5	2	3	3	...	...	...	1	...	1	...	5	...	
LOCAL INJURIES:														
Head, face, and neck:														
Wounds	26	21	5	...	2	2	6	9	4	2	1	26	...	
Contusions	7	7	...	...	1	2	2	1	1	...	...	7	...	
Cut throat	4	3	1	...	...	...	...	2	2	...	...	4	...	
Wounded globe of eye	4	4	...	...	1	1	...	1	1	...	...	4	...	
Cerebral concussion	17	14	3	3	1	4	3	4	2	...	...	17	...	
Intra-dural bleeding	1	...	1	...	...	...	...	...	1	...	...	...	1	Died comatose.
Fractured nasal bones	2	2	...	...	...	...	1	1	...	...	...	2	...	
„ base	7	7	...	...	...	1	...	4	1	...	1	3	4	Three intra-dural bleeding. One cerebral bleeding.
„ jaw	5	3	2	...	1	1	1	...	2	...	...	5	...	
Dislocated „	1	1	...	...	...	...	...	...	1	...	...	1	...	
Dog bite	1	...	1	...	...	1	...	...	...	...	...	1	...	
Thorax:														
Bruising	3	2	1	...	1	...	...	1	...	...	...	3	...	
Fractured ribs	2	2	...	...	...	...	...	1	...	...	1	2	...	
Fractured sternum	1	1	...	...	...	...	...	...	1	...	...	1	...	

TABLE II.—*continued.*

INJURIES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	−5	−10	−20	−30	−40	−50	−60	+60	R.	D.	
LOCAL INJURIES—*continued.*														
Back:														
Bruising	3	3	...	...	1	...	2	...	...	...	...	3	...	
Sprain of spine	1	1	...	...	...	...	...	...	...	...	1	1	...	
Fracture-dislocation of spine	1	1	...	...	...	...	...	1	...	...	...	...	1	Of cervical spine, died in 3 days.
Abdomen and pelvis:														
Ruptured bile duct	1	1	...	...	1	...	...	...	...	...	...	...	1	Biliary, fistula, wasting, and asthenia.
Tear of perinæum	1	...	1	...	1	...	...	...	...	...	...	1	...	
Bruising	2	2	...	...	...	1	1	...	...	...	...	2	...	
Fractured pelvis	1	1	...	...	1	...	...	...	...	...	...	1	...	
INJURIES OF UPPER EXTREMITIES:														
Wounds	22	20	2	1	...	7	1	9	4	...	...	22	...	
Contusions	6	6	...	2	1	...	1	...	2	...	...	6	...	
Dislocations:														
Shoulder	4	4	...	...	...	...	...	...	2	1	1	4	...	
Elbow	1	1	...	...	...	...	...	1	...	...	...	1	...	
Fractures:														
Humerus	5	4	1	2	...	1	...	...	1	1	...	5	...	
Ulna	1	1	...	...	...	...	1	...	...	...	...	1	...	
Radius	1	...	1	...	...	...	1	...	...	...	...	1	...	
Phalanx	1	1	...	...	...	...	...	...	1	...	...	1	...	

Injuries of Lower Extremities:														
Wounds	7	5	2	...	2	1	3	...	1	...	...	7	...	
Contusions	8	7	1	...	...	2	3	1	...	1	1	8	...	
Fractures:														
Simple:														
Femur	15	11	4	3	3	1	...	...	2	3	2	14	1	Died of lung œdema.
Tibia	15	10	5	1	...	1	4	3	3	2	1	14	...	
Fibula and tibia	10	9	1	...	...	...	1	3	2	3	1	10	...	
Fott's	4	2	2	...	...	...	1	...	2	...	1	4	...	
Fibula	7	7	...	...	...	...	2	2	2	...	1	7	...	
Phalanx	1	1	...	...	...	...	1	...	..	...	...	1	...	
Compound:														
Tibia and fibula	4	4	...	...	...	...	...	2	...	1	1	4	...	
Sprained ankle	10	7	3	...	...	...	2	4	3	1	...	10	...	

TABLE III.—OPERATIONS.

OPERATIONS.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
REMOVAL OF TUMOURS:														
Carcinoma:														
Scirrhus:														
Breast recurrent and glands	4	...	4	...	...	...	...	1	...	1	2	4	...	
„ primary	9	...	9	...	...	...	...	...	2	3	4	9	...	
Encephaloid (breast)	2	...	2	...	...	...	...	...	...	1	1	2	...	
Axillary glands	1	...	1	...	...	...	...	...	1	...	...	1	...	
Epithelioma:														
Cheek	5	4	1	...	...	...	...	1	...	2	2	5	...	
Lip	2	2	...	...	...	...	...	...	1	...	1	2	...	
Tongue	1	1	...	...	...	...	...	...	...	1	...	1	...	
Palate	1	1	...	...	...	...	1	...	...	...	...	1	...	
Hand	1	1	...	...	...	...	...	1	...	...	...	1	...	
Penis	1	1	...	...	...	...	...	...	...	...	1	1	...	
Rodent ulcer	3	3	...	...	...	...	...	1	...	...	2	3	...	
Sarcoma:														
Nasal cavities	1	...	1	...	1	...	...	...	...	...	...	1	...	
Neck (lympho-sarcoma)	1	...	1	...	...	...	...	...	1	...	...	1	...	
Shoulder	1	1	...	...	...	...	...	...	1	...	...	1	...	
Chest wall	1	1	...	1	...	...	...	...	...	...	...	...	1	Died of shock a few hours after removal.
Ribs	1	1	...	...	...	...	...	...	...	1	...	1	...	
Broad ligament	1	...	1	...	...	...	...	1	...	...	...	1	...	
Lipoma	5	1	4	...	...	...	...	4	...	1	...	5	...	
Nævus	5	1	4	2	...	2	...	1	...	...	...	5	...	
Enchondroma	1	1	...	1	...	...	...	...	...	...	...	1	...	
Exostosis	2	...	2	...	...	1	1	...	...	...	...	2	...	
Fibroma (median nerve)	1	1	...	...	...	1	...	...	...	...	...	1	...	
„ (scalp)	1	...	1	...	...	...	1	...	...	...	...	1	...	

Papillomata	3	1	2	...	...	...	3	...	...	...	...	3	...	
Fibro-adenoma	2	...	2	...	...	...	1	1	...	...	...	2	...	
Mixed parotid tumour	2	...	2	...	...	1	...	1	...	...	...	2	...	
Removal of Cysts:														
Meningocele	1	...	1	1	...	...	...	...	...	...	...	...	1	Removed day of birth; died a few days later.
Dental	1	1	...	...	...	1	...	...	...	...	...	1	...	
Sebaceous	2	1	1	...	...	1	1	...	...	...	...	2	...	
Dermoid	2	...	2	...	1	...	...	1	...	...	...	2	...	
Ovarian	3	...	3	...	...	...	1	1	1	...	...	3	...	
Hydatid (liver)	1	1	...	...	...	...	...	...	1	...	...	...	1	Developed intestinal obstruction within a day or two after operation, and died after opening transverse colon.
Ranula	1	...	1	...	...	...	...	1	...	...	...	1	...	
Operations on Nerves:														
Stitching	1	1	...	...	...	...	...	...	1	...	...	1	...	
Operations on the Eye:														
Advancement of internal rectus	1	...	1	...	...	...	1	...	...	...	...	1	...	
Division of rectus	1	1	...	...	...	1	...	...	...	...	...	1	...	
Iridectomy	1	1	...	...	1	...	...	...	...	...	...	1	...	
Needling	1	...	1	...	...	...	...	...	...	...	1	1	...	
Excision of globe	4	4	...	...	...	2	1	...	1	...	...	4	...	
Operations on Ear:														
Removal of polypus	1	...	1	...	...	...	...	...	1	...	...	1	...	
Operations on the Nose:														
Polypi	1	1	...	...	...	...	...	1	...	...	...	1	...	
Turbinectomy	6	4	2	...	...	5	...	...	1	...	...	6	...	
Scraping frontal sinus	1	...	1	...	...	...	...	1	...	...	...	1	...	
Opening antrum	1	1	...	...	...	...	...	...	1	...	...	1	...	

TABLE III.—*continued.*

OPERATIONS.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
OPERATIONS ON PHARYNX AND LARYNX :														
Adenoids	20	6	14	3	4	12	1	...	...	...	...	20	...	
Thyrotomy	1	1	1	...	...	...	...	1	1	...	...	2	...	
Excision of larynx	1	...	1	...	...	...	...	...	1	...	...	...	1	Died of recurrence of growth 3 months later.
Division of adhesions	1	...	1	...	...	...	...	...	1	...	...	1	...	
OPERATIONS ON THE HEAD, FACE, SPINE, AND NECK :														
Trephining skull	3	2	1	...	...	...	2	1	...	...	...	3	...	
Excision of upper jaw	1	...	1	...	...	...	...	...	...	1	...	1	...	
„ tongue	3	1	2	...	...	...	1	1	...	...	1	3	...	
Hare-lip	3	1	2	3	...	...	...	...	...	...	...	3	...	
Laminectomy	1	1	...	...	...	...	...	1	...	...	...	1	...	
Excising thyreo-glossal sinus	1	1	...	...	...	1	...	...	...	...	...	1	...	
Cleft palate	1	...	1	1	...	...	...	...	...	...	...	1	...	
OPERATIONS ON THE VASCULAR SYSTEM :														
Veins :														
Ligature of internal jugular	1	...	1	...	...	...	...	1	...	...	...	1	...	
Varicose veins	29	17	12	...	...	2	16	4	7	...	...	29	...	
Varicocele	17	17	...	...	...	4	11	2	...	...	...	16	1	
Arteries :														
Ligature of superficial femoral	2	2	...	...	...	...	...	2	...	...	...	2	...	

Operations on the Chest:														
Opening empyema	5	4	1	...	2	...	1	...	2	...	...	5	...	
Old sinus	2	1	1	...	1	...	...	1	...	...	...	2	...	
Exploring lung	2	2	...	...	...	...	2	...	...	...	...	2	...	
Operations on the Abdomen:														
Laparotomy	9	5	4	...	4	...	1	1	2	1	...	1	8	The deaths were:—One case ruptured pyosalpinx; 3 perforating appendicitis; 1 carcinoma of stomach; 1 perforating gastric ulcer; 1 rupture of common bile duct; 1 hepatic pylephlebitis.
Gastrostomy	1	...	1	...	...	...	...	...	...	...	1	...	1	Died 7 days after of pleurisy, pericarditis, and peritonitis.
Cholecystotomy	1	...	1	...	...	...	...	...	...	1	...	1	...	
Inguinal colotomy	4	3	1	...	...	...	...	...	1	1	2	2	2	Both died of exhaustion 13 days after operation.
Intestinal anastomosis	1	1	...	1	...	...	...	...	...	...	...	...	1	For intussusception, died in a few hours; gut gangrenous.
Excising sinus of	1	...	1	...	...	...	1	...	...	...	...	1	...	Remains of old suppurating ovarian cyst.
Operations for Hernia:														
Strangulated inguinal	6	5	1	1	...	...	1	...	1	2	1	6	...	
„ femoral	2	...	2	...	...	...	...	1	...	...	1	2	...	
„ ventral	1	...	1	.	...	...	...	...	1	...	...	1	...	
Radical cure, inguinal	39	36	3	11	...	5	10	6	1	6	...	39	...	
„ congenital	2	2	...	...	...	1	1	...	...	...	...	2	...	
„ interstitial	1	1	...	1	...	...	...	...	...	...	...	1	...	
„ femoral	4	2	2	...	...	1	1	...	...	...	2	4	...	
„ umbilical	3	1	2	...	...	...	...	1	1	1	...	2	1	Vomiting commenced directly after operation and never ceased. No P.M.
„ hydrocele of sac	2	2	...	...	...	1	1	...	...	...	...	2	...	
Incising hernial sac	1	1	...	...	...	...	...	1	...	...	...	...	1	A case of perforating typhoid ulcer and local peritoneal abscess which opened into the sac of an inguinal hernia.

TABLE I.—*continued.*

DISEASES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
DISEASES OF URO-GENITAL SYSTEM—*continued.*														
Testes and epididymis:														
Cyst of	2	2	...	...	...	...	...	2	...	...	...	2	...	
Tubercle	3	3	...	...	...	1	...	...	2	...	...	3	...	
Undescended	2	2	...	...	1	1	...	...	...	...	...	2	...	
Incontinence of urine	3	2	1	...	1	2	...	...	...	...	...	3	...	
Retention of urine	1	...	1	...	...	...	...	...	...	1	...	1	...	
Pyuria	1	1	...	...	...	...	...	...	...	1	...	1	...	
Ruptured perinæum	1	...	1	...	...	...	...	...	...	1	...	1	...	
Vesico-vaginal fistula	1	...	1	...	...	...	...	1	...	...	...	1	...	
Vaginitis	1	...	1	...	...	...	...	1	...	...	...	1	...	
Parametritis	1	...	1	...	...	...	...	1	...	...	...	1	...	
Pyosalpinx	1	...	1	...	...	...	...	1	...	...	...	...	1	Died of general peritonitis after rupture.
DISEASES OF THE BREAST:														
Hypertrophy	1	...	1	...	...	...	...	...	1	...	...	1	...	
Interstitial mastitis	4	1	3	...	...	...	...	1	...	3	...	4	...	
Galactocele	1	...	1	...	...	...	...	...	1	...	...	1	...	
DISEASES OF THE ORGANS OF LOCOMOTION:														
Bone, diseases of:														
Periostitis and osteitis of:														
Skull	1	1	...	...	...	...	...	1	...	...	...	1	...	
Frontal bone	2	...	2	...	...	...	2	...	...	...	...	2	...	

Jaw	4	3	1	1	1	1	...	1	...	...	...	4	...	
Humerus	2	1	1	...	...	1	...	1	...	...	...	2	...	
Ulna	1	...	1	...	...	...	...	1	...	...	...	1	...	
Femur	2	1	1	...	...	1	...	...	...	...	...	2	...	
Tibia	8	5	3	...	1	...	5	...	1	1	...	8	...	
Caries and necrosis of:														
Skull	1	...	1	...	...	...	...	...	1	...	...	1	...	
Temporal bone	1	...	1	...	...	...	...	1	...	...	...	1	...	
Malar	1	1	...	...	...	1	...	...	...	...	...	1	...	
Nasal bones	1	1	...	...	...	1	...	...	...	...	...	1	...	
Jaw	6	3	3	...	3	...	...	3	...	...	...	6	...	
Spine	11	6	5	2	4	3	...	1	1	...	...	10	1	Died of empyema and exhaustion.
Sternum	1	...	1	...	...	...	...	...	1	...	...	1	...	
Ribs	4	3	1	...	...	...	...	...	...	3	1	4	...	
Scapula	1	1	...	1	...	...	...	...	...	...	...	1	...	
Humerus	1	1	...	...	1	...	...	...	...	...	...	2	...	
Radius	1	1	...	1	...	...	...	...	...	...	...	1	...	
Phalanges	5	2	3	3	2	...	...	...	...	...	...	4	1	Died of tuberculosis.
Ilium	1	1	...	...	1	...	...	...	...	...	...	1	...	
Femur	2	2	...	...	...	...	1	1	...	...	...	1	...	
Tibia	4	4	...	1	...	1	1	...	...	1	...	4	...	
Os calcis	1	1	...	...	...	...	1	...	...	...	...	1	...	
Metatarsal	2	...	2	...	...	1	1	...	...	...	...	1	1	Died of tuberculous meningitis.
Abscess in bone:														
Lower jaw	1	1	...	...	1	...	...	...	...	...	...	1	...	
Tibia	2	2	...	...	...	...	2	...	...	...	...	2	...	
Acute epiphysitis	3	3	...	2	1	...	...	...	...	...	...	3	...	
Chronic „	2	2	...	2	...	...	...	...	...	...	...	2	...	
JOINTS (DISEASES OF):														
Synovitis:														
Shoulder	2	2	...	...	...	...	...	...	2	...	...	2	...	
Hip	1	1	...	...	...	...	1	...	...	...	...	1	...	

TABLE I.—*continued.*

DISEASES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
JOINTS (DISEASES OF)—*continued.*														
Synovitis—continued.														
Knee	12	10	2	...	...	1	4	2	2	2	1	12	...	
Ankle	1	...	1	...	...	...	1	...	...	...	...	1	...	
Gonorrhœal synovitis	4	3	1	...	...	1	1	1	1	...	...	4	...	
Tuberculous disease:														
Shoulder	1	1	...	...	...	...	1	...	...	...	...	1	...	
Elbow	3	1	2	...	...	2	...	...	1	...	...	3	...	
Wrist	1	1	...	...	...	...	...	...	1	...	...	1	...	
Sacro-iliac	1	1	...	...	...	...	...	1	...	...	...	1	...	
Hip	20	15	5	2	7	6	1	2	2	...	...	18	2	One died of amyloid disease. One of exhaustion after excision.
Knee	5	3	2	...	...	4	1	...	...	...	...	5	...	
Ankle	2	1	1	...	...	...	...	1	...	...	1	2	...	
Tarsus	1	...	1	...	...	1	...	...	...	...	...	1	...	
Acute arthritis, knee	1	1	...	1	...	...	...	...	...	...	...	1	...	
Internal derangement, knee	1	1	...	...	...	1	...	...	...	...	...	1	...	
Osteo-arthritis	2	2	...	...	...	...	...	...	2	...	...	2	...	
Charcot's disease	1	1	...	...	...	...	...	...	1	...	...	1	...	
Acute rheumatism	1	...	1	...	...	1	...	...	...	...	...	1	...	
Ankylosis:														
Hip	1	1	...	...	...	1	...	...	...	...	...	1	...	
Shoulder	1	1	...	...	1	...	...	...	...	...	...	1	...	
Elbow	4	...	4	...	3	...	...	...	...	1	...	4	...	

Diseases of Fasciæ, Tendons, and Bursæ:														
Enlarged bursæ	21	6	15	...	...	2	6	3	4	5	1	20	1	Died 10 minutes after cessation of anæsthetic. Fatty degeneration of heart.
Suppurating bursæ	6	2	4	...	...	1	3	1	...	1	...	6	...	
Contracted tendons	1	...	1	...	...	...	1	...	...	...	...	1	...	
Divided „	1	1	...	...	...	1	...	...	...	...	...	1	...	
Ganglion	6	4	2	...	...	1	2	...	2	1	...	6	...	
Diseases of the Cellular Tissue.—Abscess, Inflammation and Suppuration:														
Abscesses:														
Head and neck	61	33	28	17	7	13	14	4	6	...	...	60	1	Died of meningitis.
Mastoid	2	...	2	...	...	1	1	...	...	...	...	2	...	
Extradural	1	...	1	...	...	...	1	...	...	...	...	1	...	
Upper extremity	19	11	8	4	2	6	3	...	3	1	...	19	...	
Lower extremity	10	8	2	3	4	2	1	...	...	...	...	9	1	Died of asthenia and thrombosis of cerebral sinuses.
Whitlow	12	8	4	1	1	2	5	2	1	...	...	12	...	
Mammary	9	...	9	...	...	2	4	1	2	...	...	9	...	
Chest wall	2	2	...	1	...	...	...	...	...	...	1	2	...	
Abdominal wall	5	2	3	...	...	3	1	...	1	...	...	5	...	
Psoas	3	3	...	...	...	1	...	...	...	2	...	3	...	
Lumbar	1	...	1	...	...	1	...	...	...	...	...	1	...	
Ischio-rectal	11	9	2	...	1	...	5	4	1	...	...	11	...	
Perineal and groin	26	24	2	...	...	4	18	2	1	1	...	26	...	
Pericæcal	1	1	...	...	...	1	...	...	...	...	...	1	...	
Parametric	2	...	2	...	...	...	2	...	...	...	...	2	...	
Cellulitis	30	20	10	1	...	6	9	5	5	2	2	28	2	One died of pyæmia. One of asthenia.
Sloughing phagedena	3	2	1	2	...	...	...	...	...	...	1	...	3	One of septicæmia. Two of exhaustion.
Carbuncle	4	3	1	...	...	...	1	...	2	...	...	4	...	

TABLE I.—*continued.*

DISEASES.	Total.	Sex.		Age.								Result.		Remarks.
		M	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
DISEASES OF SKIN, &c.														
Erythema	1	...	1	...	...	...	1	...	...	...	...	1	...	
Erythema scarlatiniforme	1	1	...	...	...	...	...	1	...	...	...	1	...	
Eczema	2	...	2	...	...	...	...	...	1	1	...	2	...	
Scleroderma	1	1	...	...	1	...	...	...	...	...	...	1	...	
Urticaria	1	1	...	...	...	...	...	...	...	1	...	1	...	
Lupus	3	...	3	...	...	3	...	...	...	...	...	3	...	
Tubercle of	2	...	2	...	...	1	1	...	...	...	...	2	...	
Hypertrophied toe-nails	2	1	1	...	...	1	1	...	...	...	...	2	...	
Ingrowing toe-nail	3	1	2	...	...	1	...	1	...	...	1	3	...	
Suppurating corn	2	2	...	...	...	...	...	1	...	...	...	2	...	
Painful scar	3	1	2	...	...	1	2	...	...	...	...	3	...	
Sinuses	14	8	6	...	2	...	5	2	2	2	1	14	...	
Ulcer	5	2	3	...	1	1	...	...	1	1	1	5	...	
Perforating ulcer	1	1	...	...	...	...	...	1	...	...	...	1	...	
UNCLASSIFIED:														
Pregnancy	1	...	1	...	...	...	1	...	...	...	...	1	...	
Constipation	1	...	1	...	...	1	...	...	...	...	...	1	...	
Abdominal pain	1	1	...	...	...	...	...	1	...	...	...	1	...	
Swallowing foreign bodies	5	2	3	3	...	1	1	...	...	...	...	5	...	
Buried needles	2	...	2	1	...	...	...	1	...	...	...	2	...	
Œdema of forearm	1	1	...	...	...	...	1	...	...	...	...	1	...	
Lumbago	1	1	...	...	...	...	...	1	...	...	...	1	...	
Dental caries	1	...	1	...	...	...	1	...	...	...	...	1	...	
Idiocy	1	1	...	...	1	...	...	...	...	..	...	1	...	
Attempted suicide	2	1	1	...	...	...	1	1	...	...	...	2	...	
Nihilitis	1	...	1	...	...	...	...	1	...	...	...	1	...	

TABLE II.—INJURIES.

INJURIES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
GENERAL INJURIES:														
Burns	11	5	6	2	1	...	2	2	2	1	1	8	3	One of pneumonia. Two of shock.
Scalds	5	2	3	3	...	...	...	1	...	1	...	5	...	
LOCAL INJURIES:														
Head, face, and neck:														
Wounds	26	21	5	...	2	2	6	9	4	2	1	26	...	
Contusions	7	7	...	...	1	2	2	1	1	...	...	7	...	
Cut throat	4	3	1	...	...	...	...	2	2	...	...	4	...	
Wounded globe of eye	4	4	...	...	1	1	...	1	1	...	...	4	...	
Cerebral concussion	17	14	3	3	1	4	3	4	2	...	...	17	...	
Intra-dural bleeding	1	...	1	...	...	...	...	...	1	...	...	...	1	Died comatose.
Fractured nasal bones	2	2	...	...	...	...	1	1	...	...	...	2	...	
„ base	7	7	...	...	...	1	...	4	1	...	1	3	4	Three intra-dural bleeding. One cerebral bleeding.
„ jaw	5	3	2	...	1	1	1	...	2	...	...	5	...	
Dislocated „	1	1	...	...	...	...	...	...	1	...	...	1	...	
Dog bite	1	...	1	...	...	1	...	...	...	...	...	1	...	
Thorax:														
Bruising	3	2	1	...	1	...	...	1	...	...	...	3	...	
Fractured ribs	2	2	...	...	...	...	...	1	...	...	1	2	...	
Fractured sternum	1	1	...	...	...	...	...	...	1	...	...	1	...	

TABLE I.—*continued.*

DISEASES.	Total.	Sex.		Age.								Result.		Remarks.
		M	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
DISEASES OF SKIN, &c.														
Erythema	1	...	1	...	...	...	1	...	...	...	...	1	...	
Erythema scarlatiniforme	1	1	...	...	...	...	...	1	...	...	...	1	...	
Eczema	2	...	2	...	...	...	...	...	1	1	...	2	...	
Scleroderma	1	1	...	...	1	...	...	...	...	...	...	1	...	
Urticaria	1	1	...	...	...	...	...	...	...	1	...	1	...	
Lupus	3	...	3	...	...	3	...	...	...	...	...	3	...	
Tubercle of	2	...	2	...	...	1	1	...	...	...	...	2	...	
Hypertrophied toe-nails	2	1	1	...	...	1	1	...	...	...	...	2	...	
Ingrowing toe-nail	3	1	2	...	...	1	...	1	...	...	1	3	...	
Suppurating corn	2	2	...	...	...	...	...	1	...	...	...	2	...	
Painful scar	3	1	2	...	...	1	2	...	...	...	...	3	...	
Sinuses	14	8	6	...	2	...	5	2	2	2	1	14	...	
Ulcer	5	2	3	...	1	1	...	...	1	1	1	5	...	
Perforating ulcer	1	1	...	...	...	...	...	1	...	...	...	1	...	
UNCLASSIFIED :														
Pregnancy	1	...	1	...	...	...	1	...	...	...	...	1	...	
Constipation	1	...	1	...	...	1	...	...	...	...	...	1	...	
Abdominal pain	1	1	...	...	...	...	...	1	...	...	...	1	...	
Swallowing foreign bodies	5	2	3	3	...	1	1	...	...	...	...	5	...	
Buried needles	2	...	2	1	...	...	...	1	...	...	...	2	...	
Œdema of forearm	1	1	...	...	...	...	1	...	...	...	...	1	...	
Lumbago	1	1	...	...	...	...	...	1	...	...	...	1	...	
Dental caries	1	...	1	...	...	...	1	...	...	...	...	1	...	
Idiocy	1	1	...	...	1	...	...	...	...	..	...	1	...	
Attempted suicide	2	1	1	...	...	...	1	1	...	...	...	2	...	
Nihilitis	1	...	1	...	...	...	...	1	...	...	...	1	...	

TABLE II.—INJURIES.

INJURIES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
GENERAL INJURIES:														
Burns	11	5	6	2	1	...	2	2	2	1	1	8	3	One of pneumonia. Two of shock.
Scalds	5	2	3	3	...	...	...	1	...	1	...	5	...	
LOCAL INJURIES:														
Head, face, and neck:														
Wounds	26	21	5	...	2	2	6	9	4	2	1	26	...	
Contusions	7	7	...	...	1	2	2	1	1	...	...	7	...	
Cut throat	4	3	1	...	...	...	...	2	2	...	...	4	...	
Wounded globe of eye	4	4	...	...	1	1	...	1	1	...	...	4	...	
Cerebral concussion	17	14	3	3	1	4	3	4	2	...	...	17	...	
Intra-dural bleeding	1	...	1	...	...	...	...	...	1	...	...	...	1	Died comatose.
Fractured nasal bones	2	2	...	...	...	...	1	1	...	...	...	2	...	
„ base	7	7	...	...	...	1	...	4	1	...	1	3	4	Three intra-dural bleeding. One cerebral bleeding.
„ jaw	5	3	2	...	1	1	1	...	2	...	...	5	...	
Dislocated „	1	1	...	...	...	...	...	...	1	...	...	1	...	
Dog bite	1	...	1	...	...	1	...	...	...	...	...	1	...	
Thorax:														
Bruising	3	2	1	...	1	...	...	1	...	...	...	3	...	
Fractured ribs	2	2	...	...	...	...	...	1	...	...	1	2	...	
Fractured sternum	1	1	...	...	...	...	...	...	1	...	...	1	...	

TABLE II.—*continued.*

INJURIES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	−5	−10	−20	−30	−40	−50	−60	+60	R.	D.	
LOCAL INJURIES—*continued.*														
Back:														
Bruising	3	3	...	...	1	...	2	...	...	...	...	3	...	
Sprain of spine	1	1	...	...	...	...	...	...	...	...	1	1	...	
Fracture-dislocation of spine	1	1	...	...	...	...	...	1	...	...	...	...	1	Of cervical spine, died in 3 days.
Abdomen and pelvis:														
Ruptured bile duct	1	1	...	...	1	...	...	...	...	...	...	...	1	Biliary, fistula, wasting, and asthenia.
Tear of perinæum	1	...	1	...	1	...	...	...	...	...	...	1	...	
Bruising	2	2	...	...	...	1	1	...	...	...	...	2	...	
Fractured pelvis	1	1	...	...	1	...	...	...	...	...	...	1	...	
INJURIES OF UPPER EXTREMITIES:														
Wounds	22	20	2	1	...	7	1	9	4	...	...	22	...	
Contusions	6	6	...	2	1	...	1	...	2	...	...	6	...	
Dislocations:														
Shoulder	4	4	...	...	...	...	...	...	2	1	1	4	...	
Elbow	1	1	...	...	...	...	...	1	...	...	...	1	...	
Fractures:														
Humerus	5	4	1	2	...	1	...	...	1	1	...	5	...	
Ulna	1	1	...	...	...	...	1	...	...	...	...	1	...	
Radius	1	...	1	...	...	...	1	...	...	...	...	1	...	
Phalanx	1	1	...	...	...	...	...	...	1	...	...	1	...	

INJURIES OF LOWER EXTREMITIES:														
Wounds	7	5	2	...	2	1	3	...	1	...	...	7	...	
Contusions	8	7	1	...	...	2	3	1	...	1	1	8	...	
Fractures:														
Simple:														
Femur	15	11	4	3	3	1	...	...	2	3	2	14	1	Died of lung œdema.
Tibia	15	10	5	1	...	1	4	3	3	2	1	14	...	
Fibula and tibia	10	9	1	...	...	...	1	3	2	3	1	10	...	
Fott's	4	2	2	...	...	...	1	...	2	...	1	4	...	
Fibula	7	7	...	...	...	...	2	2	2	...	1	7	...	
Phalanx	1	1	...	...	...	...	1	...	..	...	...	1	...	
Compound:														
Tibia and fibula	4	4	...	...	...	...	...	2	...	1	1	4	...	
Sprained ankle	10	7	3	...	...	...	2	4	3	1	...	10	...	

TABLE III.—OPERATIONS.

OPERATIONS.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
REMOVAL OF TUMOURS :														
Carcinoma :														
Scirrhus :														
Breast recurrent and glands..	4	...	4	...	...	...	...	1	...	1	2	4	...	
„ primary	9	...	9	...	...	...	...	...	2	3	4	9	...	
Encephaloid (breast)	2	...	2	...	...	...	...	...	...	1	1	2	...	
Axillary glands.....	1	...	1	...	...	...	...	...	1	...	...	1	...	
Epithelioma :														
Cheek	5	4	1	...	...	...	...	1	...	2	2	5	...	
Lip	2	2	...	...	...	...	...	...	1	...	1	2	...	
Tongue	1	1	...	...	...	...	...	...	...	1	...	1	...	
Palate.....	1	1	...	...	...	...	1	...	...	...	...	1	...	
Hand	1	1	...	...	...	...	...	1	...	...	...	1	...	
Penis	1	1	...	...	...	...	...	...	...	...	1	1	...	
Rodent ulcer	3	3	...	...	...	...	...	1	...	...	2	3	...	
Sarcoma :														
Nasal cavities.....	1	...	1	...	1	...	...	...	...	...	...	1	...	
Neck (lympho-sarcoma)	1	...	1	...	...	...	...	...	1	...	...	1	...	
Shoulder.....	1	1	...	...	...	...	...	...	1	...	...	1	...	
Chest wall	1	1	...	1	...	...	...	...	...	...	...	...	1	Died of shock a few hours after removal.
Ribs.....	1	1	...	...	...	...	...	...	...	1	...	1	...	
Broad ligament.....	1	...	1	...	...	...	...	1	...	...	...	1	...	
Lipoma	5	1	4	...	...	...	...	4	...	1	...	5	...	
Nævus	5	1	4	2	...	2	...	1	...	...	...	5	...	
Enchondroma	1	1	...	1	...	...	...	...	...	...	...	1	...	
Exostosis	2	...	2	...	...	1	1	...	...	...	...	2	...	
Fibroma (median nerve).....	1	1	...	...	...	1	...	...	...	...	...	1	...	
„ (scalp)	1	...	1	...	...	...	1	...	..	...	...	1	...	

Papillomata	3	1	2	...	...	...	3	...	...	...	...	3	...	
Fibro-adenoma	2	...	2	...	...	...	1	1	...	...	...	2	...	
Mixed parotid tumour	2	...	2	...	...	1	...	1	...	...	...	2	...	
Removal of Cysts:														
Meningocele	1	...	1	1	...	...	...	...	...	...	...	...	1	Removed day of birth; died a few days later.
Dental	1	1	...	...	...	1	...	...	...	...	...	1	...	
Sebaceous	2	1	1	...	...	1	1	...	...	...	...	2	...	
Dermoid	2	...	2	...	1	...	...	1	...	...	...	2	...	
Ovarian	3	...	3	...	...	...	1	1	1	...	...	3	...	
Hydatid (liver)	1	1	...	...	...	...	...	...	1	...	...	...	1	Developed intestinal obstruction within a day or two after operation, and died after opening transverse colon.
Ranula	1	...	1	...	...	...	...	1	...	...	...	1	...	
Operations on Nerves:														
Stitching	1	1	...	...	...	...	...	...	1	...	...	1	...	
Operations on the Eye:														
Advancement of internal rectus	1	...	1	...	...	...	1	...	...	...	...	1	...	
Division of rectus	1	1	...	...	...	1	...	...	...	...	...	1	...	
Iridectomy	1	1	...	...	1	...	...	...	...	...	...	1	...	
Needling	1	...	1	...	...	...	...	...	...	...	1	1	...	
Excision of globe	4	4	...	...	...	2	1	...	1	...	...	4	...	
Operations on Ear:														
Removal of polypus	1	...	1	...	...	...	...	...	1	...	...	1	...	
Operations on the Nose:														
Polypi	1	1	...	...	...	...	...	1	...	...	...	1	...	
Turbinectomy	6	4	2	...	...	5	...	...	1	...	...	6	...	
Scraping frontal sinus	1	...	1	...	...	...	...	1	...	...	...	1	...	
Opening antrum	1	1	...	...	...	...	...	...	1	...	...	1	...	

TABLE III.—*continued.*

OPERATIONS.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
OPERATIONS ON PHARYNX AND LARYNX :														
Adenoids	20	6	14	3	4	12	1	...	...	...	...	20	...	
Thyrotomy	1	1	1	...	...	...	...	1	1	...	...	2	...	
Excision of larynx	1	...	1	...	...	...	...	...	1	...	...	...	1	Died of recurrence of growth 3 months later.
Division of adhesions	1	...	1	...	...	...	...	...	1	...	...	1	...	
OPERATIONS ON THE HEAD, FACE, SPINE, AND NECK :														
Trephining skull	3	2	1	...	...	...	2	1	...	...	...	3	...	
Excision of upper jaw	1	...	1	...	...	...	...	...	...	1	...	1	...	
„ tongue	3	1	2	...	...	...	1	1	...	...	1	3	...	
Hare-lip	3	1	2	3	...	...	...	...	...	...	...	3	...	
Laminectomy	1	1	...	...	...	...	...	1	...	...	...	1	...	
Excising thyreo-glossal sinus	1	1	...	...	...	1	...	...	...	...	...	1	...	
Cleft palate	1	...	1	1	...	...	...	...	...	...	...	1	...	
OPERATIONS ON THE VASCULAR SYSTEM :														
Veins :														
Ligature of internal jugular	1	...	1	...	...	...	...	1	...	...	...	1	...	
Varicose veins	29	17	12	...	...	2	16	4	7	...	...	29	...	
Varicocele	17	17	...	...	...	4	11	2	...	...	...	16	1	
Arteries :														
Ligature of superficial femoral	2	2	...	...	...	...	...	2	...	...	...	2	...	

Operations on the Chest:													
Opening empyema	5	4	1	...	2	...	1	...	2	...	...	5	...	
Old sinus	2	1	1	...	1	...	...	1	...	...	...	2	...	
Exploring lung	2	2	...	...	...	...	2	...	...	...	...	2	...	
Operations on the Abdomen:														
Laparotomy	9	5	4	...	4	...	1	1	2	1	...	1	8	The deaths were:—One case ruptured pyosalpinx; 3 perforating appendicitis; 1 carcinoma of stomach; 1 perforating gastric ulcer; 1 rupture of common bile duct; 1 hepatic pylephlebitis.
Gastrostomy	1	...	1	...	...	...	...	...	...	...	1	...	1	Died 7 days after of pleurisy, pericarditis, and peritonitis.
Cholecystotomy	1	...	1	...	...	...	...	...	...	1	...	1	...	
Inguinal colotomy	4	3	1	...	...	...	...	...	1	1	2	2	2	Both died of exhaustion 13 days after operation.
Intestinal anastomosis	1	1	...	1	...	...	...	...	...	...	...	...	1	For intussusception, died in a few hours; gut gangrenous.
Excising sinus of	1	...	1	...	...	...	1	...	...	...	...	1	...	Remains of old suppurating ovarian cyst.
Operations for Hernia:														
Strangulated inguinal	6	5	1	1	...	...	1	...	1	2	1	6	...	
„ femoral	2	...	2	...	...	...	...	1	...	...	1	2	...	
„ ventral	1	...	1	...	...	...	...	...	1	...	...	1	...	
Radical cure, inguinal	39	36	3	11	...	5	10	6	1	6	...	39	...	
„ congenital	2	2	...	...	...	1	1	...	...	...	...	2	...	
„ interstitial	1	1	...	1	...	...	...	...	...	...	...	1	...	
„ femoral	4	2	2	...	...	1	1	...	...	...	2	4	...	
„ umbilical	3	1	2	...	...	...	...	1	1	1	...	2	1	Vomiting commenced directly after operation and never ceased. No P.M.
„ hydrocele of sac	2	2	...	...	...	1	1	...	...	...	...	2	...	
Incising hernial sac	1	1	...	...	...	...	...	1	...	...	...	...	1	A case of perforating typhoid ulcer and local peritoneal abscess which opened into the sac of an inguinal hernia.

TABLE III.—*continued.*

OPERATIONS.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
OPERATIONS ON THE RECTUM AND ANUS:														
Exploration of	1	1	...	...	...	...	1	...	...	...	...	1	...	
Excision	2	1	1	...	...	...	...	...	1	1	...	2	...	
Linear proctotomy	1	...	1	...	...	...	1	...	...	...	...	1	...	
Piles	15	10	5	...	...	...	4	2	4	5	...	15	...	
Fissure	7	3	4	...	...	...	3	2	1	1	...	7	...	
Fistula	16	12	4	...	...	...	6	2	7	1	...	16	...	
OPERATIONS ON THE URINO-GENITAL ORGANS:														
Urethra:														
Dilatation	4	4	...	...	...	...	...	3	1	...	...	4	...	
External urethrotomy	5	5	...	...	...	...	...	3	2	...	...	5	...	
Internal „	2	2	...	...	...	...	...	...	...	1	1	2	...	
Excision of caruncle	1	...	1	...	...	...	...	1	...	...	...	1	...	
Bladder:														
Cystotomy, supra-pubic	2	2	...	...	...	...	...	1	...	...	1	1	1	Malignant disease of bladder, died 22 days later.
Median lithotomy	1	1	...	...	...	...	...	...	...	1	...	1	...	
Lithotrity	1	1	...	...	...	...	...	...	1	...	...	1	...	
Perineal section	1	1	...	...	...	...	...	...	...	...	1	...	1	Died, malignant disease of bladder.
Vesico-vaginal fistula	1	...	1	...	...	...	...	1	...	...	...	1	...	
Kidney:														
Nephrotomy	3	2	1	...	...	...	1	...	1	1	...	3	...	
Nephrectomy	1	1	...	...	...	...	...	...	...	1	...	1	...	
Nephrorraphy	3	...	3	...	...	...	...	3	...	...	...	3	...	
Nephrolithotomy	2	1	1	...	...	...	...	2	...	...	...	2	...	

Circumcision	19	19	...	4	1	8	5	1	...	...	...	19	...	
Ruptured perineum	1	...	1	...	...	...	...	...	...	1	...	1	...	
Hydrocele	9	9	...	1	...	4	3	1	...	...	...	9	...	
Cyst of epididymis	2	2	...	...	...	...	...	1	...	1	...	2	...	
Castration	2	2	...	...	...	1	1	...	...	...	...	2	...	
Operations on the Breast:														
Amputation of	5	...	5	...	...	...	...	...	5	...	...	5	...	For cases of malignant disease, see **removal of tumours.**
Operations on Bones:														
Scraping and gouging	20	16	4	4	2	3	2	2	1	4	2	19	1	Died of tuberculosis.
Osteotomy, transverse	4	2	2	3	1	...	...	...	...	...	...	4	...	
„ linear	1	...	1	...	...	...	1	...	...	...	...	1	...	
Os'eoclasis	1	...	1	1	...	...	...	...	...	...	...	1	...	
Wiring patella	2	1	1	...	...	...	...	1	...	1	...	2	...	
„ fractured tibia	1	1	...	...	...	...	...	1	...	...	...	1	...	
Removal of premaxilla	1	1	...	1	...	...	...	...	...	...	...	...	1	Died of pyæmia.
Excision of scaphoid	1	1	...	...	...	...	1	...	...	...	...	1	...	
Sequestrotomy	12	10	2	2	3	3	1	2	1	...	...	12	...	
Opening abscess in antrum	3	3	...	...	...	1	2	...	...	...	...	3	...	
„ mastoid	18	8	10	1	2	10	3	1	1	...	...	18	...	
Operations on Joints:														
Arthrectomy and excision:														
Shoulder	1	1	...	...	...	...	1	...	...	...	...	1	...	
Elbow	2	...	2	...	...	2	...	...	...	...	...	2	...	
Hip	6	5	1	3	1	1	...	...	1	...	...	5	1	Died of exhaustion.
Knee	4	4	...	...	3	...	...	1	...	...	...	4	...	
Metatarso-phalangeal	3	...	3	...	...	...	1	1	...	1	...	3	...	
Incision into:														
Elbow	2	2	...	...	1	1	...	...	...	...	...	2	...	
Knee	1	1	...	1	...	...	...	...	...	...	...	1	...	

TABLE III.—*continued.*

OPERATIONS.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
OPERATIONS ON JOINTS—*contd.*														
Removing semilunar cartilage (knee)	1	1	...	...	...	...	1	...	...	...	...	1	...	
For congenital dislocation of hip	1	...	1	...	1	...	...	...	...	...	...	1	...	
Reducing recent dislocations	3	3	...	...	...	...	...	...	1	1	1	3	...	
Wrenching :														
Shoulder	2	2	...	...	1	...	1	...	...	...	...	2	...	
Elbow	2	...	2	...	2	...	...	...	...	...	...	2	...	
Finger	2	2	...	...	...	...	1	...	1	...	...	2	...	
Hip	1	1	...	...	...	...	...	1	...	...	...	1	...	
Knee	2	...	2	...	2	...	...	...	...	...	...	2	...	
Foot	3	..	3	...	...	...	1	2	...	...	...	3	...	
AMPUTATIONS :														
Upper arm	1	1	...	...	...	...	...	...	1	...	...	1	...	
Forearm	1	1	...	...	...	...	...	...	1	...	...	1	...	
Finger	10	5	5	1	2	1	2	2	...	1	1	10	...	
Thigh	2	1	1	...	...	2	...	...	...	...	...	2	...	
Through knee	2	...	2	...	...	...	...	...	2	...	...	2	...	
.. leg	1	1	...	...	...	...	...	...	...	...	1	1	...	
Syme's	1	...	1	...	...	1	...	...	...	...	...	1	...	
Toe	6	...	6	1	...	3	2	...	...	1	...	5	1	Died of tubercular meningitis.

OPERATIONS ON LYMPHATIC GLANDS:														
Excision	17	6	11	1	1	6	4	4	1	...	...	17	...	
Scraping	11	7	4	1	1	4	2	2	1	...	...	11	...	
OPERATIONS ON TENDONS AND BURSÆ:														
Tenotomy	14	8	6	3	...	3	6	...	2	...	...	14	...	
Suture of tendons	3	3	...	...	...	...	2	1	...	...	...	3	...	
Excising bursæ	13	6	7	...	...	1	2	2	3	5	...	12	1	Died 10 minutes after cessation of anæsthetic. Fatty heart.
„ ganglion	7	4	3	...	...	2	2	...	2	1	...	7	...	
OPERATIONS ON SKIN, CONNECTIVE TISSUE SYSTEM, &C.:														
Opening abscesses	131	85	46	16	14	27	38	18	12	3	3	127	4	One case died of pyæmia, one of thrombosed cerebral sinuses, one of meningitis, and one of asthenia (spinal caries, empyema, lumbar abscess).
Incising cellulitis	21	15	6	...	...	5	6	3	3	1	2	19	2	One died of pyæmia; one sloughing phagedena.
„ carbuncle	2	1	1	...	...	...	...	...	2	...	...	2	...	
Scraping sinuses	15	10	15	...	2	1	5	4	1	1	1	15	...	
„ lupus	5	1	4	...	...	...	3	1	1	...	...	5	...	
„ ulcers	3	1	2	...	...	...	2	1	...	...	...	3	...	
Suture of wounds and stumps	14	11	3	...	...	...	5	2	3	4	...	14	...	
Excising painful scar	2	1	1	...	...	...	1	1	...	...	...	2	...	
Webbed fingers	1	1	...	1	...	...	...	...	...	...	...	1	...	
Grafting	2	...	2	...	1	...	1	...	...	...	...	2	...	
Exploratory incision	1	...	1	...	1	...	...	...	...	...	...	1	...	
Avulsion of toe-nail	1	1	...	...	1	...	...	...	..	...	...	1	...	

TABLE IV.—*Infectious Diseases occurring in the Surgical Wards during* 1897.

Sex.	Date of Admission.	Admitted for	Infectious disease.	Result.
M.	January 18, 1897	Enlarged axillary glands	Erysipelas.....	Discharged well, February 3, 1897.
F.	June 22, „	Congenital dislocation of hip	Scarlatina	„ October 11, „
F.	„ 29, „	Moveable kidneys	„	Discharged to Fever Hospital, July 7, 1897.
F.	August 1, „	Ankylosed elbow.....	„	„ „ August 1, „
F.	October 3, „	Facial erysipelas.....	Erysipelas..	Discharged well, October 17, 1897.
F.	„ 4, „	„	„	„ „ 18, „
F.	November 21, „	Ungual exostosis.....	Diphtheria	Discharged to Fever Hospital, Dec. 11, 1897.
F.	December 1, „	Hammer toes	„	„ „ „ „
M.	„ 3, „	Facial erysipelas.....	Erysipelas.....	Discharged well, December 6, 1897.

REPORT OF CASES IN "ARDEN WARD"

(FOR DISEASES OF WOMEN)

DURING THE YEAR 1897.

Number of cases in "Arden" on January 1st		8
Number of cases in "Arden" on December 31st		10
New cases admitted during the year		122
Total cases treated during the year		130
Cured and relieved	100	
Unrelieved	10	
Died	7	
Under treatment	10	
Transferred	3	
	—	130

Cases in "Arden Ward."

Nature of Case.	No. of Case.	Initials.	Age.	Result.	No. in Register.	Remarks, treatment, &c.
Uterus:						
Fibroid tumour	I	A. R.	38	Relief	W. 194	
	II	M. Y.	49	,,	W. 224	
	III	J. M.	41	Cured	X. 1	Sloughing.
	IV	E. M	37	Relief	X. 10	
	V	M. N.	36	,,	X. 28	
	VI	M. F.	38	,,	X. 32	
	VII	C. L.	64	Unrelieved	X. 46	
	VIII	E. A.	48	Relief	X. 143	
	IX	C. B.	46	Cured	X. 154	Hysterectomy.
Fibroid polypus.....	I	M. S.	49	,,	W. 126	
	II	S. B.		,,	W. 166	
	III	P. P.	48	,,	X. 44	
	IV	F. J.	48	,,	X. 152	
Retroversion	I	F. B.	45	Relief	W. 134	
	II	E. M.	29	,,	W. 170	
	III	S. P.	34	,,	W. 182	
	IV	A. W.	31	,,	W. 198	Moveable kidney. Of gravid uterus, retention of urine.
	V	H. C.		,,	W. 202	
	VI	S. F.	43	,,	W. 218	
	VII	J. S.	49	,,	X. 120	
	VIII	M. P.	50	,,	X. 179	
Procidentia	I	M. L.	68	,,	W. 147	
	II	S. S.	50	,,	W. 200	
	III	A. R.	54	,,	W. 244	
	IV	M. J.	34	,,		
	V	A. Q.	30	,,	X. 26	
	VI	A. W.	42	,,	X. 129	Cystocele marked.

Subinvolution	I	E. M.	35	Relief	W. 186	
	II	E. C.	27	Cured	X. 66	
Chronic endometritis ...	I	L. A. S.	40	Relief	W. 210	Curetted.
	II	C. H.	40	Cured	W. 258	„
	III	E. C.	43	„	X. 159	
Hypermobility	I	A. C.	29	Relief	X. 130	
CERVIX UTERI :						
Epithelioma	I	E. T.	44	„	W. 157	Cautery.
	II	I. O.	56	Death	W. 178	Had pyæmia.
	III	M. A.	50	Relief	W. 254	
	IV	A. F.	52	Not improved	X. 18	
	V	A. W.	51	„	X. 22	
	VI	E. S.	30	Relief	X. 110	
Mucous polypus	I	M. A. W.	37	Cured	X. 48	
	II	C. T.	44	„	X. 104	
Hypertrophy	I	M. O.	16	„	X. 171	
MENSTRUATION, DISORDERS OF :						
Menorrhagia	I	M. A. B.	38	Relief	X. 74	
Dysmenorrhœa	I	H. R.	27	„	X. 4	
	II	M. S.	16	„	W. 155	Epileptiform fits.
PREGNANCY, DISORDERS OF :						
Abortion, threatened ...	I	M. A.	24	Prevented	W. 174	

Cases in "Arden Ward"—*continued.*

Nature of Case.	No. of Case.	Initials.	Age.	Result.	No. in Register.	Remarks, treatment, &c.
Pregnancy, Disorders of—*contd.*						
Abortion, sequelæ of ...	II	A. M.	32	Cured	W. 212	
	III	E. C.	37	„	W. 246	
	IV	C. B.	29	„	W. 252	Placenta adherent.
	V	T. D.	26	„	X. 14	
	VI	K. H.	36	„	X. 16	
	VII	S. B.	26	„	X. 82	Retained placenta.
	VIII	E. E.	27	„	X. 102	
	IX	J. M.	29	„	X. 136	With hypertrophy of cervix.
	X	C. C.	39	„	X. 150	
	XI	C. K.	30	„	X. 173	
	XII	E. H.	30	„	X. 175	
Rupture of perineum ...	I	M. M.	29	Relief	X. 92	Coccygodinia.
	II	M. L.	31	„	X. 140	
Puerperal pyæmia	I	E. G.	31	Death	W. 132	
	II	L. N.	20	Cured	W. 214	Septicæmia and pleurisy.
	III	B. M.	31	Death	X. 20	
„ septicæmia ...	I	J. C.	22	Cured	X. 54	
	II	A. E.	23	„	X. 56	
	III	J. C.	44	„	X. 132	
	IV	L. K.	30	Death	X. 162	
Vagina:						
Vesico-vaginal fistula ...	I	E. O.	67	Unrelieved	W. 149	
	II	M. P.	5	Transferred	—	

VULVA:						
Three abscesses.....	I	L. R.	19	Cured	W. 230	
URETHRA:						
Vascular carunole	I	A. M.	22	Relief	W. 121	
	II	E. W.	55	Cured	W. 256	
	III	J. W.	26	„	X. 34	
BLADDER:						
Cystitis	I	J. P.	32	Relief	W. 151	
	II	A. H.	24	Unrelieved	W. 170	Tuberculous.
	III	K. R.	35	Cured	W. 232	
	IV	R. L.	45	Relief	X. 71	
	V	S. M.	45	„	X. 99	
	VI	S. G.	55	Cured	X. 134	
Papilloma of	I	A. S.	28	Transferred	X. 30	
OVARY:						
Tumours	I	C. S.	34	Relief	W. 117	
	II	K. W.	17	Cured	W. 123	
	III	A. C.	39	„	X. 115	
	IV	A. D.	35	„	X. 147	
	V	E. K.	29	„	X. 61	Double ovariotomy.
Irritation of	I	E. M.	36	Relief	W. 161	
PELVIS:						
Parametritis	I	A. O.	27	Cured	W. 137	Abscess punctured.
	II	E. B.	22	Relief	W. 175	
	III	M. G.	30	Cured	W. 190	

Cases in "Arden Ward"—*continued.*

Nature of Case.	No. of Case.	Initials.	Age.	Result.	No. in Register.	Remarks, treatment, &c.
Pelvis—*contd.*						
Parametritis	IV	E. H.	41	Relief	W. 222	Chronic.
	V	A. W.	36	Unrelieved	W. 240	
	VI	A. W.	20	Cured	X. 50	Abscess punctured.
	VII	J. N.	38	Death	X. 88	Abscess.
	VIII	A. J.	38	Relief	X. 156	
	IX	C. T.	20	,,	X. 179	Chronic.
	X	A. H.	38	,,	W. 184	
Perimetritis	I	E. L.	39	,,	W. 206	
	II	C. B.	25	,,	X. 24	Chronic.
	III	J. B.	22	Cured	X. 58	
	IV	E. W.	45	Relief	X. 68	
	V	D. R.	25	,,	X. 95	
	VI	K. W.	26	,,	X. 97	
	VII	A. B.	36	,,	X. 145	Chronic.
Contracted pelvis	I	M. A. H.	26	Delivered	W. 140	Labour induced at 7th month.
	II	J. G.	37	,,	X. 168	Child died.
Pelvic tumour	I	E. W.	40	Unrelieved	W. 114	
Unclassified:						
Hæmatemesis	I	A. E.	17	Relief	W. 164	
Hysteria	I	F. B.	23	,,	W. 220	
	II	A. H.	34	,,	X. 108	

Blood from rectum	I	A. C.	33	Relief	W. 242	
Phthisis	I	C. K.	24	Not improved	X. 8	
Sterility	I	J. G.	36	Relief	X. 9	Dilated cervix.
Varicose veins, thrombosis left leg	I	A. T.	35	"	X. 31	
Mammary abscess, thrombosis left leg ...	II	C. H.	38	Cured	X. 60	
? Appendicitis	I	M. P.	34	"	X. 36	Went out well.
Chorea, 6 months pregnant	I	A. B.	22	Not improved	X. 40	
Gonorrhœa	I	A. S.	18	Relief	X. 52	
	II	K. C.	30	"	W. 250	
Abscess of angle of jaw..	I	M. F.	31	Cured	X. 62	
Anæmia after labour ...	I	W. K.	24	Relief	X. 78	Placenta prævia.
Carcinoma recti	I	C. S.	35	Death	X. 80	
Albuminuria in pregnancy	I	A. J.	27	Some relief	X. 75	
	II	A. J.	50	Unrelieved	X. 182	
Pyosalpinx, peritonitis...	I	A. H.	28	Death	X. 113	
Pleurisy	I	H. F.	21	Cured	X. 122	
Retroperitoneal sarcoma	I	E. N.	19	Unrelieved	X. 124	
Constipation	I	L. N.	23	Relief	X. 128	

NOTE ON THE CASE, J. M., 41, X 1.

The following memoranda from the case book are inserted, as the case was a very interesting one.

She was admitted on April 30th, in a condition almost moribund. She complains of something coming from front passage; loss of blood four years, and foul discharge for some months; last child born six years ago.

Appears to have lost almost all her blood; tongue, lips, and skin blue-white in colour; has great difficulty in getting air enough when she breathes rapidly.

A large membranous mass, 9 inches long, is hanging from the vagina; is dirty and stinking in character; it looks like mucous membrane. On passing a catheter 3 ozs. of urine was drawn off. Finger in bowel finds a mass in front and to the left; bowels open every day. On vaginal examination, opening of os seems in same place as the anterior vaginal wall, no cervix projecting, until os feels like an opening through the anterior vaginal wall; from this orifice projects the stinking mass. It should be remarked that the cervix could not be made out at first, and so we thought the orifice was an unnatural one. Under the microscope a portion of the mass shows unstriated muscular fibre only, no epithelium. The mass was thought to be omentum, bowels, or bladder. Next day the diagnosis was settled by the cervix protruding, and some of the mass coming through it—was a sloughing fibroid. The uterus per abdomen is enlarged to size of a cricket ball, and irregular on its surface. It appears to get smaller as the mass comes away bit by bit. The local treatment, douching every 4 hours, with a lotion of permanganate of potash and iodoform dusted on. Diet: brandy, port wine, milk, eggs, soda water, and Valentine's meat juice.

On May 6th: Still some material coming away.

On May 25th: Uterus closed and not felt from abdomen. A thrombus occurred in the neck of the patient, and disappeared after treatment for one week. It appeared also in the left leg on 25th. Leg and foot œdematous. Circulation weak. To have 6 ozs. port wine.

On June 5th: All thrombus gone. General health good. Patient has been here from time to time since, and her general health and local condition keep perfectly well.

REPORT

OF THE

POST-MORTEM EXAMINATIONS MADE IN 1897.

By R. G. HEBB, M.D.

CASES RECORDED		212
Males	131	
Females	81	
GENERAL DISEASES:		
Enteric fever	4	
Rheumatic fever	1	
Measles	1	
Diphtheria	8	
Tetanus	1	
Septicæmia	10	
Tuberculosis	27	
Syphilis	3	
Alcoholism	2	
Diabetes	3	
Purpura	2	
Rickets	1	
	—	63
DISEASES OF THE NERVOUS SYSTEM:		
Hæmorrhage	3	
Softening	1	
Tumour	2	
Hydrocephalus	3	
Cerebro-spinal meningitis	2	
Myelitis	1	
Convulsions	1	
	—	13
DISEASES OF THE CIRCULATORY SYSTEM:		
Pericarditis	2	
Ulcerative endocarditis	16	
Chronic endocarditis—		
Mitral	7	
Aortic	3	
Mitral and aortic	7	
Dilated heart	1	
Fatty heart	2	
Aneurysm	1	
	—	39

Diseases of the Respiratory System:		
Bronchitis	1	
Broncho-pneumonia	10	
Pneumonia	7	
Chronic pneumonia	2	
Gangrene of lung	2	
Empyema	2	
Pleurisy	1	
Emphysema	1	
Cancer of larynx	1	
	—	27
Diseases of the Digestive System:		
Enteritis	1	
Appendicitis	3	
Ulcerative colitis	1	
Peritonitis	1	
Ulcer of stomach	1	
Ulcer of duodenum	1	
Volvulus	1	
Diarrhœa	7	
Cancer of œsophagus	3	
Cancer of stomach	5	
Cancer of colon	1	
Cancer of rectum	2	
Cirrhosis of liver	4	
Hydatids of liver	1	
Cancer of pancreas	1	
	—	33
Diseases of the Urinary System:		
Nephritis—		
Acute	1	
Parenchymatous	4	
Interstitial	6	
Hydronephrosis	1	
Cancer of bladder	1	
	—	13
Diseases of the Lymphatic System:		
Sarcoma	1	
	—	1
Diseases of the Organs of Locomotion:		
Sclerosis of spine	1	
Caries of spine	1	
Morbus coxæ	1	
	—	3
Diseases of the Generative System:		
Salpingitis	1	
Cancer of uterus	1	
	—	2
Injuries, Surgical Diseases, and Operations:		
Otitis	4	
Cellulitis	2	

INJURIES, SURGICAL DISEASES, AND OPERATIONS—*continued.*		
For intermuscular sinus	1	
For meningocele	1	
For intussusception	1	
Fracture of skull	8	
Fracture of spine	1	
Fracture of pelvis	1	
Fracture of femur	1	
Rupture of liver	1	
Rupture of bile duct	1	
Burn	3	
Asphyxia	2	
Æther poisoning	1	
Carbolic acid poisoning	1	
	—	29
UNCLASSIFIED		1

Short notes on most of the foregoing cases. The numbers from 10 *to* 223 *refer to the folios in vol. X. of the P. M. Registers.*

GENERAL DISEASES.

Enteric Fever.—37. M., 38. Ulceration of ileum only; perforation; peritonitis; lymphatic glands enlarged. Spleen 6½ ozs. Left inguinal hernia.

133. M., 26. Ulceration of ileum and colon; enlargement of mesenteric glands. Spleen 19 ozs. Pneumonia.

182. M., 18. Ulceration of ileum and colon; mesenteric glands large and suppurating; spleen 16¼ ozs.

184. M., 22. Ulceration in ileum only; spleen 12 ozs.; mesenteric glands very large, one being size of a hen's egg.

Rheumatic Fever.—10. M., 40. Heart 23½ ozs.; recent pericarditis; old and recent aortic valvulitis; heart muscle extremely soft.

Measles.—97. M., $1\frac{6}{12}$. Rash fading; rickets; broncho-pneumonia; hypertrophy of right heart.

Diphtheria.—23. F., 3. Tonsils large and ulcerated; membrane on faucial and laryngeal mucosa. Some patches of membrane on gastric mucosa; stomach contents are greyish, membranous-looking substance, mixed with blood clot (1-2 drachms). Rickets.

86. F., 6. Tracheotomy wound; membrane from epiglottis downwards to bronchi. Tonsils large, ulcerated.

92. M., 4. Thick membrane from anterior to posterior nares; on faucial mucosa and from epiglottis to bronchi.

105. F., $1\frac{3}{12}$. Thick membrane from anterior to posterior nares; a few patches of membrane on laryngeal mucosa; mucosa of upper part of pharynx is gangrenous. Rickets.

162. F., $7\frac{8}{12}$. Membrane on fauces, back of pharynx and on larynx above cords.

192. F., 5. No membrane anywhere; respiratory mucosa swollen and dark red. Bronchi filled with thick muco-purulent fluid. Pneumonia.

208. M., 3. Tracheotomy wound; tonsils large, indurated. Membrane from epiglottis downwards as far as tracheotomy wound, below which there is much thick, viscid, muco-purulent fluid. Suppurative bronchitis; broncho-pneumonia.

210. M., $\frac{4}{12}$. Tracheotomy wound. Thick membrane from anterior to posterior nares. Membrane on faucial mucosa and on laryngeal to level of tracheotomy wound, below which there is much thick, yellow, viscid fluid. Broncho-pneumonia.

Tetanus.—100. F., 60. Two punched-out ulcers, $\frac{1}{8}$ inch in diameter, in right temporal region, involving only soft tissues of scalp. Right leg bent, shortened, and foot inverted, owing to deep and extensive scarring of skin and subcutaneous tissue. Nervous tissue of brain and cord nil. Transverse and antero-posterior fissures of liver. Uterus prolapsed, the cervix projecting through the vulva.

Septicæmia.—15. F., 31. Puerperal. Uterus $3\frac{3}{4}$ inches; os lacerated; wall thick and soft; mucosa granular and coarsely so about left cornu; veins of left broad ligament thrombosed; clot in veins firm. Liver 89 ozs., soft, yellow. Spleen $17\frac{1}{2}$ ozs.; numerous large septic infarcts, some red and soft, others yellow and firm. Heart 13 ozs., mitral valve festooned with coarse, thick, soft vegetations. Pneumonia with superjacent pleuritis. Punched-out ulcer of larynx. Staphylococcus in splenic vessels (Gram).

48. M., 26. Diffuse cellulitis of right axillary and humeral regions; much purulent fluid in both pleural sacs. Mediastinal

tissue swollen from inflammatory exudation. Liver 81 ozs., soft, yellow. Spleen 10½ ozs., dark, soft, homogeneous.

52. M., 22. Abscesses of liver (80 ozs.) and chronic peritonitis in the pelvic and right iliac regions, in which situations there is much thickening, especially about appendix. The pus in abscesses is thick, viscid, and orange-coloured. Most of the abscesses are apparently in connection with portal systems. Microscopical examination of the pus showed tyrosin, yellow granules; oblong orange crystals; cocci, mostly scattered, but a few short chains; a few bacilli and some long filaments. Sections of liver show that the abscesses are located in the hepatic parenchyma and have no primary connection with the portal veins. The walls are thin, and there are a few isolated giant cells.

62. F., 35. Puerperal. Uterus 3¾ inches; fundus globose, boggy; walls soft; whole of surface of fundus covered with thick, shaggy deposit resembling placental remains. The deposit is partly purple, partly yellow in colour. Much ichorous fluid in uterine cavity. Kidneys 12 ozs., in condition of parenchymatous nephritis. Heart 13½ ozs.; hypertrophy of left ventricle. Septic pleuro-pneumonia, with abscesses of lungs. Large sacral bed-sore.

94. M., 7. Diffuse suppuration of soft tissues of right foot, with necrosis of scaphoid and first metatarsal bones. Heart 12½ ozs. Pericardium much thickened and much purulent fluid and shaggy lymph in sac. Much turbid greenish yellow fluid in peritoneal and both pleural sacs. Staphylococcus infection (Gram).

102. F., 31. Puerperal. Uterus 4 inches; os patulous; walls flaccid; mucosa granular; placental attachment at left cornua; abscess in left broad ligament. Pus in joints and abscesses in skin. Septic abscesses in lungs. Ante-mortem coagulum in left auricular appendix. Clot in right common iliac and femoral veins; clot adherent to wall of veins, softening in centre. Spleen 11¾ ozs., very soft; dark red.

178. M., 60. Between right cheek and gum is a hole, ¾ inch by ½ inch, leading into right antrum and communicating also with right side of nose. Numerous intermuscular and subcutaneous abscesses in upper and lower extremities. Chronic pneumonia, with great thickening of right pleura.

183. M., $\frac{5}{12}$. Hare-lip and cleft palate; premaxilla absent. Intermuscular abscess of left foot. Greenish yellow pus in right middle ear; muco-purulent fluid in left tympanum.

195. M., $\frac{9}{52}$. Sore, size and shape of sixpenny piece in right parietal region; edges raised; centre depressed, ulcerated; margin of a dark blue colour. Septic pleuro-pneumonia with abscesses of lungs. Hæmorrhagic extravasation into both adrenals. Staphylococcus infection.

205. F., 30. Puerperal. Uterus 6 inches; wall of fundus 1 inch thick; os deeply lacerated; mucosa thick, soft, spongy; placental site on anterior surface of fundus. Right fallopian tube and some of the uterine veins filled with pus. No recent corpus luteum in either ovary, only shrunken yellow bodies. Suppurative peritonitis. Both adrenals are swollen, indurated, and in early condition of coagulation-necrosis. Heart 10½ ozs. Mitral stenosis; edge of valve covered with coarse, soft vegetations. Microscopical examination of adrenals shows that the coagulation-necrosis is result of thrombosis in veins; no micro-organisms were demonstrable in the coagulum.

Tuberculosis.—21. M., 35. Tuberculous cerebro-spinal meningitis. Ulceration of larynx. Pigmented fibro-caseous tubercles in lungs; vomicæ. Tubercles in kidneys and caseation in prostate. Tuberculous ulcers in ileum.

22. F., $1\frac{9}{12}$. Tuberculous cerebro-spinal meningitis. Suppurative otitis media. Lymphatic glands caseous. Caseation in lung. Broncho-pneumonia with recent pleurisy.

25. M., 8. Tuberculous meningitis. Otitis media. Miliary tubercles in lungs. Lymphatic glands caseous. Tubercles in liver, spleen, kidneys, and ulcers of intestines.

26. F., $\frac{4}{12}$. Tuberculous meningitis. Much fluid in cerebral ventricles. Miliary tubercles in lungs and caseous mass in right upper lobe. Lymphatic glands caseous. Tubercles in spleen, liver, kidneys, and ulcerations in intestines.

30. F., 49. Tubercular pneumonic phthisis. Vomicæ. Much fluid in left pleural sac, with carnification of lung. Lymphatic glands pigmented, and liquefying in centre. Numerous tuberculous ulcers of intestines. Two ureters to left kidney: each has separate opening into bladder and separate calices.

31. M., $1\frac{6}{12}$. Tuberculous meningitis. Miliary tubercles

and large caseation in lungs. Lymphatic glands caseous. Tubercles in liver, spleen, and kidneys, and ulcerations in intestines.

34. M., $1\frac{4}{12}$. Tuberculous meningitis; suppurative otitis. Recent lymph on right pleura, and the whole lung consolidated, fleshy, and purple. Miliary tubercles in lungs, liver, spleen, and kidneys. A few tuberculous ulcers of intestines. Lymphatic glands large and caseous.

40. M., 41. Heart, with pericardium, $32\frac{1}{2}$ ozs., pericardium much thickened, surface covered with coarse, thick, soft, granular lymph, which unites the opposing surfaces; left ventricle hypertrophied. Miliary tubercles in lungs and kidneys. Lymphatic glands large, caseous. Tuberculous ulcers of small and large intestines. Microscopical examination of pericardium shows tuberculous pericarditis, apparently of some little duration; both surfaces are thickly bestudded with tubercles, in which are numerous giant cells and tubercle bacilli.

45. F., $1\frac{3}{12}$. Ulcer, with sharp punched-out edge, size of florin, in skin behind left ear. Strumous dactylitis of second left finger. Pus in both middle ears. Tuberculosis of lungs, spleen, and lymphatic glands.

50. M., $1\frac{4}{12}$. Greenish yellow pus in both middle ears. Tuberculous consolidation with vomicæ in lungs. Tuberculous ulcers of gastric and intestinal mucosa. Tubercles in liver, spleen, kidneys, and lymphatic glands.

59. F., $1\frac{1}{12}$. Tonsils large, indurated, ulcerated. Tuberculosis of lungs, with broncho-pneumonic consolidation of a hæmorrhagic type. Tubercles in liver, spleen, and lymphatic glands.

64. F., 2. Tuberculous meningitis. Tuberculosis of lungs, spleen, kidneys, and lymphatic glands.

84. M., $\frac{3}{12}$. Tuberculosis of lungs, pericardium, liver, spleen, kidneys, intestinal mucosa, and lymphatic glands.

37. F., 2. Tuberculous meningitis. Greenish yellow pus in left middle ear. Large yellow tubercles in lungs; abscess in left lower lobe, the pus of which is yellow and slimy. Large yellow tubercles in liver, and numerous cavities filled with bright yellow slimy pus. Tubercles in spleen, kidneys, and lymphatic glands. Tuberculous ulcers of gastric and intestinal mucosas.

89. F., 9. Tuberculous meningitis, and much fluid in

ventricles. Tubercles in lungs, liver, spleen, kidneys, lymphatic glands, and intestinal mucosa.

131. M., 4. Thick, curdy, yellow lymph at base of right lung. Masses of fibro-caseous tubercles in both lungs; those in the right have broken down into vomicæ. Tubercles in liver, spleen, kidneys, and lymphatic glands; tuberculous ulcers of small intestines. Ante-mortem adherent coagula in left ventricle. Both testicles are retained in canal close to internal rings, which are closed.

150. M., 5. Tuberculous meningitis; excess of fluid in cerebral ventricles. Tubercles in lungs, liver and spleen, kidneys and lymphatic glands.

153. F., $\frac{11}{12}$. Caseous mesenteric glands; tuberculous ulcers of ileum; broncho-pneumonia of right lung.

155. M., $1\frac{2}{12}$. Pus in right middle ear. Tubercles in lungs, liver, spleen, kidneys, and lymphatic glands. Tubercles and ulceration of intestines.

159. F., 4. Tuberculous meningitis; broncho-pneumonia. One small caseation in spleen; a few cretaceous and caseous nodules in lymphatic glands.

161. M., 41. Chronic pleuritis; tuberculous pneumonic phthisis, with vomicæ. Ulcerations of larynx. Lymphatic glands large, pigmented, tuberculous. Atrophic nephritis.

166. M., 55. Induration of lungs from pigmented fibrosis, and from pigmented fibro-caseous tubercles. Tuberculous peritonitis. Liver 26 ozs.; cirrhotic. Tuberculous ulcers of intestines. Lymphatic glands large, caseous, and in places cretaceous.

177. M., 37. Lungs indurated from presence of racemose masses of pigmented fibro-caseous tubercles, which in places have broken down into cavities filled with sanious muco-purulent fluid. The masses are confluent in upper lobes, discrete in lower lobes. Tuberculous laryngitis with ulceration.

202. M., 37. Chronic pleuritis; indurative fibrosis of pleuræ and lungs. Tuberculosis of lungs. Laryngeal mucosa thick and granular. Chronic peritonitis with collections of grumous pus in right iliac region and near liver.

221. F., 47. Tuberculous laryngitis with ulcerations; old and recent pleuritis. Greater part of both lungs indurated from presence of almost confluent racemose masses of pigmented

fibro-caseous tubercles, which in places are breaking down into cavities. Scar of healed gastric ulcer on posterior surface of stomach, just below middle of lesser curvature. Heart 14 ozs.; hypertrophy of left ventricle; arteries atheromatous. Kidneys 9 ozs., tough, pallid, granular (atrophic nephritis). Joints of feet and hands nodose: copious deposit of urate of soda in joints of left foot and ankle; none in those of right foot or ankle; none in knee, or shoulder, or hip joints. Joints of hands and elbows not examined, but the presence of urate of soda therein is surmised from their appearance.

222. M., $4\frac{3}{12}$. Recent pleuritis. Tubercles in lungs, liver, and spleen, and lymphatic glands. A few small circular ulcers in intestinal mucosa and one in gastric.

78. M., $\frac{3}{12}$. Mediastinal glands much enlarged, caseous, and softening; the left phrenic nerve is much stretched over the mediastinal mass. Tubercles in liver. Brought in dead.

Syphilis.—75. M., $\frac{6}{12}$. Eczema of skin of buttocks, scrotum, and backs of thighs. Broncho-pneumonia. Gastro-intestinal tract is white, like cream-laid note-paper. Liver 14½ ozs., yellow, firm, and smooth: on section all the left and most of right lobe is found to be yellow, firm, and homogeneous; the rest of right lobe is pinkish and less firm. Testicles indurated. Spleen 1¼ ozs., firm, fleshy, red, homogeneous, adherent to diaphragm. Microscopical examination of liver shows well-marked monocellular cirrhosis; no gummata were observed. The testicle and kidney are in similar condition; in all three organs the principal feature is an inflammatory hyperplasia of the connective tissue element with consecutive lesions of the included parts. These are of a degenerative nature and are more marked in the kidney and liver than in the testicle.

117. M., 27. Liver 73 ozs., firm; colour red generally, but mottled, with spheroidal areas of yellow. Spleen 6 ozs., beefy, red, homogeneous. Pancreas 4 ozs., extremely hard. Kidneys 17 ozs., flabby, smooth; cortex large, yellow. Bladder distended; no hypertrophy. Stricture of urethra 1 inch from anterior meatus; just admits passage of small probe, *i.e.*, about No. 1 catheter. Right testicle indurated and much enlarged from fibrosis and a gumma, which is caseating. The left testicle is fibrosed, almost no testicular tissue being visible on section.

Microscopical examination of liver shows engorgement of capillaries and much interstitial cell hyperplasia but no fibrosis. A few of the hepatic arterioles are "amyloid." The kidney is a typical example of chronic parenchymatous nephritis with "amyloid" infiltration of the malpighians and some of the arterioles.

152. F., 33. Extensive syphilitic scars on left leg; tuberculous ulcer of larynx; effusion into right pleural sac; tuberculous induration of lungs, with excavation. Liver 88 ozs., "amyloid." Spleen 10½ ozs., "amyloid." Kidneys 21½ ozs., "amyloid." Uterus large, with several myomata. Left ovary cystic, size of tangerine orange.

Alcoholism.—16. M., 44. Pneumonia (red hepatisation) with pleuritis. Heart 18 ozs.; hypertrophy of left ventricle. Liver 72 ozs., yellow, firm. Left humerus dislocated into axilla.

114. M., 29. Pneumonia (red hepatisation) with pleuritis. Chronic gastritis. Liver 86 ozs., yellow, friable.

Diabetes.—35. M., 59. Dry gangrene of first, second, and third toes of left foot. Arteries very atheromatous. Pancreas 2½ ozs., drab, firm.

74. M., 37. Recent pleuritis; numerous areas of consolidation in lungs, and one suppurating. Liver 85 ozs.: five abscesses containing viscid yellow pus. Pancreas just under 2 ozs., indurated. Spleen 9¾ ozs., commencing abscess of large size. Microscopical examination: Pus from hepatic abscesses show two kinds of bacilli, one thin growing to filaments, the other broader with thick well-staining capsule. Pancreas shows much inter-lobular fibrosis with some degeneration of the epithelial cells in places; the nerves are unusually numerous and thick and the ductlets greatly in evidence. Lung: the central areas of the consolidations are crowded with short, thick bacilli, staining badly with Gram, but well with alk. m. blue. The peripheral parts are crowded with leucocytes and the vessels much engorged.

191. M., 30. Blood everywhere fluid, dark, sticky. Pancreas just 2 ozs. Thyroid and prostate unusually small. Mesenteric glands somewhat large, firm, drab. Microscopical examination of brain, thyroid, pancreas, pituitary, and pineal revealed nothing striking.

Purpura.—197. M., 36. Numerous small hæmorrhages in skin, mucosas, muscles, and beneath serous membranes. Blood in heart and vessels is clotted; the coagulum is firm and red; no liquid blood except in the hepatic vessels. Liver 75 ozs., nil. Spleen 12½ ozs., soft, red, homogeneous. Microscopical examination of blood clot: sections show a good few bacilli, with slightly rounded ends, and in places some cocci, but as the autopsy was made 40 hours P.M., no particular stress can be laid on their presence.

Rickets.—43. 51.

Diseases of the Nervous System.

Hæmorrhage.—53. F., 40. Brain 39 ozs. Large clot lying in intermeningeal space over left hemisphere, which is much depressed. On internal aspect of dura there is a small, firm, adherent clot on a branch of middle meningeal artery. There is no fracture of the cranial bones.

151. M., 46. Hæmorrhage into left basal ganglia. Heart 13½ ozs., left ventricle hypertrophied; arteries atheromatous. Chronic nephritis.

175. M., 36. Diffuse subarachnoid hæmorrhage of brain and cord. Left lateral ventrical, iter and fourth ventricle filled with soft black clot. Liver 85 ozs., fatty.

Softening.—77. M., 36. Recent softening of right parietal and central areas from cortex inwards to basal ganglia. Old softening on left side of anterior part of caudate nucleus, and adjacent part of internal capsule. All the arteries are more or less diseased, those in right sylvian fissure are indurated and feel like cords; the aorta is in condition of shrinking aortitis, and the larger branches in a similar but less advanced condition. Chronic gastritis with two small ulcers. Spleen 6 ozs. Large masses of hard, yellowish fibrous tissue, and a thick fibrous reticulum ramify throughout the parenchyma. Microscopical examination of the sylvian arteries shows well-marked obliterative endarteritis, the lumen being in one branch quite occluded from the thickening of the intima. The splenic fibrosis points to cicatrisation of gummatous deposit, wherein are skeletons of obliterated vessels. Well-marked degeneration of one lateral column of the cord.

Tumour.—130. M., 5. Diffuse glioma of pons, and immediately adjacent parts. Size 2½ inches in diameter; shape roughly spheroidal; consistence firm; colour white.

142. F., 43. Spheroidal tumour, size of golf ball, in white substance of right parietal region; the surrounding nervous tissue is in condition of yellow softening.

Hydrocephalus.—32. F., $\frac{7}{12}$. Brain 20½ ozs.; ventricles distended with clear fluid and convolutions flattened. Rickets.

125. F., $\frac{3}{12}$. Lateral ventricles of enormous size; walls very thin; choroid plexus atrophied; third ventricle large; iter patent: on the surface of left hemisphere is some old partially decolourised blood clot. Spina bifida 2 inches long extends from lower dorsal to sacral region.

913. M., $\frac{5}{2}$. Brain 20 ozs.; convolutions flattened; all the ventricles are very large from distension with turbid watery fluid; some yellow purulent lymph at base.

Cerebro-spinal Meningitis.—68. M., 9. Turbid yellowish fluid, in subarachnoid space of brain and cord and in ventricles. Numerous foci of purulent lymph in subarachnoid space of brain and cord. Purulent mucus in both middle ears. Microscopical examination of the mucus from middle ears shows two cocci and one bacillus, while the subarachnoid pus shows one small coccus only. This is very frequent; is free and also in or on the pus cells. (Gram, and alk. m., blue).

113. M., 32. Much fluid in subarachnoid space of brain and cord; vessels engorged; numerous petechiæ. Nervous substance of brain and cord soft and hyperæmic; no pus or lymph anywhere. Thoracic and abdominal viscera nil.

Myelitis.—54. M., 26. Bichromate staining of cord at junction of cervical and dorsal regions, gives evidence of considerable degeneration in posterior columns; this was confirmed by microscopical examination which further showed chronic inflammation of the pia, and considerable hyperæmia of the grey matter. The blood vessels in the dorso-cervical region are hypertrophied and varicose. This degeneration is probably the result of gummatous cicatrisation. To the naked eye the brain seemed normal. Bladder large; mucosa thickened and its

veins distended with firm black clot; contents, a pint or more of sanious urine. Floor of membranous and prostatic portions of urethra tunneled by false passages. Other viscera nil.

Convulsions.—115.

Diseases of the Circulatory System.

Pericarditis.—55. F., 5. Much lymph in pericardial sac. Broncho-pneumonia.

110. M., 73. Pericardial sac much dilated, thickened, and internal surface covered with coarse, shaggy lymph: about a pint of clear fluid in sac. Arteries atheromatous.

Endocarditis—Ulcerative Valvulitis.—44. M., 38. Heart with pericardium, which is thickened and adherent, 36 ozs. Aortic cusps thickened and recurved; mitral flaps thickened and adherent. Recent ulcerative endocarditis of mitral valve, left auricle and of chordæ, several of which are ulcerated through. Hypertrophy of left ventricle. Viscera "cardiac"; infarcts in kidneys and lungs. Staphylococcus infection.

164. F., 19.—Heart with pericardium, which is thickened and adherent, 23 ozs. Mitral much thickened and ulcerated and the large flap loose from ulceration of its chordæ. Large areas of vegetations on wall of left auricle and ventricle. A few coarse vegetations on tricuspid; aorta normal. Viscera "cardiac"; infarcts in lungs, spleen, and kidneys. Staphylococcus infection.

174. M., 12. Heart 9 ozs. Aortic cusps thickened and recurved. Both surfaces of large flap of mitral are covered with thick, soft vegetations, as is also the surface of auricle. Infarcts in brain, spleen, kidneys, and intestinal mucosa. Lungs pneumonic. Streptococcus infection.

181. M., 25. Heart with pericardium, which is thickened and adherent, 21½ ozs. The wall of auricle and mitral valve, are festooned with huge yellow masses of vegetations. Aortic cusps thickened, recurved, with a few small tough vegetations thereon. Spleen 19 ozs.; old and recent infarcts, two suppurating. Kidneys in condition of parenchymatous nephritis, show also a few small caseating infarcts. Streptococcus infection.

Chronic Valvulitis—Mitral.—42. M., 42. Heart 23½ ozs. Mitral flaps thickened, stiff with calcareous deposit, orifice much stenosed; rest of endocardium nil. Old infarcts in spleen and kidneys. Yellow softening of cortex cerebri in orbital regions and a few similar patches in the temporo-sphenoidal lobes. Pneumonia. "Symmetrical" gangrene of feet, hands, and nose. The toes are black and surrounded by bullæ; in the hands the gangrene is limited to black patches on dorsal surface. The nose is swollen, tense, and the tip mottled with black striæ.

82. F., 39. Heart 17½ ozs. Mitral flaps thickened, adherent, orifice stenosed and edges covered with vegetations. Tricuspid flaps also somewhat thickened. Pneumonia. Viscera "cardiac."

101. M., 54. Heart 17 ozs. Mitral flaps thick and stiff from calcareous deposit; orifice linear and stenosed. Viscera "cardiac." Infarcts of lung. Atrophic nephritis. Right femoral omental hernia.

136. M., 23. Heart 28 ozs. Mitral flaps and chordæ thick and opaque. Endocardium smooth. Left ventricle dilated and hypertrophied. Left auricle very large and its walls very thin. Mitral ring admits four fingers easily. Tricuspid ring 6 inches in circumference. Viscera "cardiac."

156. M., 66. Heart 21 ozs. Both ventricles hypertrophied and dilated. Mitral flaps thickened, adherent, and orifice stenosed; edge beset with coarse, firm vegetations. Arteries very atheromatous. Lungs pigmented and emphysematous. Chronic peritonitis. Large inguinal hernia on both sides.

157. F., 8. Heart with pericardium, which is thickened and adherent, 15½ ozs. Between the pericardial layers at base there is considerable deposit of yellow lymph. Mitral flaps thickened, adherent, and chordæ shortened; orifice but little stenosed. Wall of left auricle is much hypertrophied; there is no dilatation. Viscera "cardiac." Brown induration of lungs.

212. M., 53. Heart 25 ozs. Mitral flaps thickened and shortened. Pneumonia; stage of grey hepatisation to purulent infiltration.

Aortic.—33. M., 56. Heart 23 ozs.; aortic cusps thickened from calcareous deposit, two being united. Orifice stenosed, but valve acts fairly well, water only running through slowly.

Arteries very atheromatous; viscera "cardiac." Infarct in lung; œdema of laryngeal mucosa. Kidneys 16 ozs.; indurated, surface irregular in places; large yellow infarct in right. Large hydrocele of right tunica vaginalis. Joints nil. Finger ends clubbed. (This was a typical case of angina pectoris: was also supposed to suffer from nephritis and gout, there was, however, no urate of soda in big toe joints).

67. M., 31. Heart 16 ozs. Left ventricle much dilated. Aortic cusps thickened and recurved. Atheroma of first part of arch: rest of arteries fairly normal.

189. M., 43. Heart 25 ozs. Left ventricle dilated and hypertrophied. Aortic cusps thickened, recurved, and rough from calcareous deposit. (Stenosis and incompetence.) Walls of aorta and arteries are unusually thin for a male adult. Liver 40 ozs.; surface coarsely granular, consistence hard, colour buff to yellow (advanced "cardiac cirrhosis"). Pancreas large, hard. Old infarct of spleen. Kidneys "cardiac." The mesenteric glands in the ileocolic angle are large and calcified. Peyer's patches are atrophied, their sites are smooth but not pigmented. Microscopical examination of the liver shows zones of hyperæmia and atrophy; these are located partly around the central venule and partly along the course of distribution of the hepatic arteriole. In numerous places there are networks of biliary canaliculi filled with olive-green coloured bile.

Mitral and Aortic.—19. M., 21. Heart 17½ ozs. Shape globose; right apex lower than left; hypertrophy of right ventricle. Flaps of mitral and tricuspid thickened, adherent, and orifice stenosed; aortic cusps thickened and recurved. Viscera "cardiac"; infarcts of lung.

24. F., 22. Heart 22 ozs. Flaps of mitral and tricuspid thickened, adherent, and orifices stenosed. Aortic cusps thickened and recurved. Aortic orifice stenosed; both ventricles hypertrophied. Viscera "cardiac." Brown induration of lungs. Finger ends clubbed.

41. M., 39. Heart 25 ozs.; aortic cusps thick, stiff, recurved. Mitral dilated, ring = 5½ inches. Liver 84 ozs.; large gall-stone impacted in cystic duct; viscera "cardiac."

90. F., 38. Heart 17 ozs.; hypertrophy without dilatation; aortic cusps thickened, two adherent, rough and indurated

from calcareous deposit; orifice stenosed and valve incompetent; mitral 3¾ inches; some calcareous deposit in flaps. Old infarcts of spleen. Lungs much fibrosed. Angular curvature of lumbar region; the bodies and spines of 3rd and 4th lumbar vertebræ are welded together into a single mass, the resulting tissue being firm and hard. The intervertebral cartilage between 2nd and 3rd vertebræ is absent, and a space exists between the bodies of these bones.

98. F., 16. Heart with pericardium, which is universally and firmly adherent, 17¼ ozs. Mitral tricuspid and pulmonary thickened from fibro-caseous deposit, the superjacent endocardium being fairly smooth. The aortic cusps are thickened at their bases, but the valve holds water; mitral ring = 2⅞ inches. Lungs in condition of chronic cardiac pneumonia. Mediastinal glands are large, pigmented, and contain many caseous or cretaceous nodules. The viscera generally are œdematous and exsanguine.

201. M., 49. Heart 20 ozs.; mitral flaps adherent and orifice stenosed (no thickening). Calcareous deposit in aortic cusps, one of which is much thickened and recurved. Hypertrophy of left ventricle. Arteries fairly normal. Kidneys 12½ ozs.; parenchymatous nephritis.

214. M., 5½. Heart with pericardium, which is much thickened and universally adherent, 7¾ ozs. Coarse, tough vegetations on aortic and mitral valves, the latter being also thickened. Viscera "cardiac"; brown induration of lungs.

Dilated Heart.—107. M., 35. Heart 16 ozs.; shape globose; dilatation with some hypertrophy; no endocarditis. Viscera "cardiac."

Fatty Heart.—138. F., 58. Heart 15 ozs.; hypertrophy of left ventricle; much sub-epicardial adipose tissue, especially on right side, the wall of this ventricle near apex being practically nothing but fat. Numerous uterine myomata. Part of tongue has been removed for epithelioma; wound quite healed. Right cervical lymphatic glands much indurated.

213. F., 49. Heart 11½ ozs.; much sub-epicardial adipose tissue on right side, the muscle of wall of right ventricle being very thin.

Aneurysm.—99. M., 34. Aorta very atheromatous; in its thoracic portion are three large aneurysms, two springing from transverse arch and the third from the descending aorta. One of the former aneurysms has eaten through the chest wall eroding the ribs and sternum. There is much laminated clot in the sacs. The heart is of normal size; there are a few old pericardial adhesions. Bladder hypertrophied and sacculated. Prostate enlarged from fibro-glandular hyperplasia. Stricture of urethra at membranous portion.

Diseases of the Respiratory System.

Bronchitis.—179.

Broncho-pneumonia.—57, 58, 73, 119, 126, 143, 158, 193, 194, 199. All infants or very young children; the morbid appearances were limited to the lungs and not specially noteworthy.

Pneumonia.—27. M., $1\frac{4}{12}$. Turbid fluid and yellow lymph in right pleural sac. Right upper lobe pneumonic, the consolidation being firm, fleshy, homogeneous, and pinkish. Rest of pulmonary tissue nil. Mediastinal glands large, soft, pink. At the base of right vocal cord is a small ulcer with sharp punched-out edges. Pericardium covered with lymph and much turbid fluid in sac. Double harelip and cleft palate. Microscopical examination of lung shows lobar pneumonia.

47. M., $1\frac{4}{12}$. Much lymph and purulent fluid in both pleural sacs. Grey hepatisation of both upper lobes. The mediastinal connective tissue and the thymus are much swollen from inflammatory interstitial exudation. Purulent mucus in both middle ears.

79. M., 42. Red hepatisation of left lower lobe. Liver 88 ozs., yellow, soft, friable. Slight general jaundice.

91. M., 38. Grey hepatisation of right lung, lymph on pleura. Slight general jaundice. Liver 91 ozs.

200. F., 1. Left lung fleshy, homogeneous, and smooth on section; lymph in both pleural sacs. Numerous subcutaneous abscesses in which are cocci of irregular arrangement and of reniform shape. Microscopical examination of lung indicates a croupous pneumonia.

211. M., $\frac{9}{12}$. Right upper and left lower lobes consolidated

throughout; the consolidation is quite homogeneous, smooth on section, firm and yellowish. The superjacent pleura is covered with lymph. Microscopical examination shows croupous pneumonia, the alveoli being filled with fibrin and the walls somewhat thickened from cell-proliferation.

219. F., 21. Grey hepatisation of left lower lobe with subjacent abscess of pleura which has perforated the diaphragm, the floor of the abscess being formed by the spleen. The abscess cavity is now cut off from the general peritoneal cavity by firm adhesions. It is however evident from the subacute peritonitis that there had been acute general inflammation of the serous membrane some time previously, and in connection with the abscess. Linear scar of healed gastric ulcer on lesser curvature half-way between the two orifices.

Chronic Pneumonia.—14. M., 23. Whole of right lung consolidated from aggregation of confluent masses of caseous pneumonia; in left lung are numerous discrete masses of similar appearance; no excavation; some recent granular lymph over left lower lobe; chronic pleuritis over upper halves of both lungs. There are no caseations or tubercles in lymphatic glands. In the mucosa of small intestine are good few circular flattish elevations with central ulceration. Microscopical examination of lungs shows collections of alveoli filled with a fibrino-cellular exudation which together with the involved alveolar walls are in condition of caseous necrosis. Here and there are giant cells. No tubercle bacilli were found in the sections, nor in the sputum during life.

216. F., 50. Greater part of both lungs indurated from presence of dense interstitial fibrosis, which in places is much pigmented. The fibrosis is most dense in the lower lobes; there is no excavation; pleuræ thickened and adherent. Large white scars on right knee and upper part of leg. Stomach contracted almost tubular; small recent ulcer in pyloric mucosa. Was brought in dead.

Gangrene of Lung.—17. M., 5. Diffuse gangrene of left lung after broncho-pneumonia. Pleura adherent; parts of 7th and 8th ribs have been resected. Recent broncho-pneumonia of right lung. The mediastinal glands are not enlarged.

Microscopical examination of lung shows broncho-pneumonic appearances, and the presence of streptococci and long bacilli with sharply pointed end, and central dark staining body.

83. F., 62. Behind upper part of œsophagus and over against 7th cervical and first three dorsal vertebræ is a thick-walled abscess cavity which communicates with a vomica in the upper lobe of right lung. The superior half of right upper lobe is consolidated partly from fibrosis and partly from septic pneumonia; in it are excavations, size of walnuts, filled with fœtid pus. The fibrosis of lung and that behind œsophagus are in continuity; the front of the bodies of the 7th cervical and first three dorsal vertebræ are carious, blackish-green, and their cancellous tissues contain pus. About one inch from the end of larynx are two pouches in the œsophagus, one being cæcal, while the other leads into the post-œsophageal abscess cavity. Apparently these diverticula are of congenital origin.

Empyema.—18. M., $1\frac{7}{12}$. Thick-walled empyema sac of right pleura. Sac communicates by a narrow hole with lung, which is carnified and squeezed up into costo-vertebral groove. Left lung broncho-pneumonic. Streptococcus in empyema pus.

71. M., 1. Resection of part of 8th left rib; much shaggy lymph in pleural sac; lung carnified from pressure, though it also has been inflamed (lobar pneumonia).

Pleurisy.—39. M. 27. Mediastinal tissue swollen from inflammatory exudation; in both pleural sacs are large masses of inflammatory lymph and much turbid fluid. The lungs are œdematous, engorged, and subcrepitant, but not hepatised. Pericardium covered with shaggy lymph, and much turbid fluid in sac. In pleural exudation streptococcus; in lung long thick bacilli (Gram and alk. m. blue).

Emphysema.—217. M., 64. Substantive and vicarious emphysema; pleura thickened and adherent. Costal cartilages calcified. Lungs large, heavy, pigmented, œdematous; hypostatic engorgement; bronchitis; œdema of aryepiglottic mucosa. Heart $23\frac{3}{4}$ ozs.; general dilatation and hypertrophy; mitral and tricuspid rings dilated. Viscera "cardiac." Left inguinal canal widely patent.

Cancer of Larynx.—28. F., 43. Tracheotomy wound. Firm white growth affecting larynx, soft tissues of neck and mediastinum. There is secondary invasion of œsophagus, and numerous deposits in lungs, and a few in liver. From below epiglottis the larynx has been removed by operation. Microscopical examination shows small round and oval cells of mesoblastic derivation, and apparently of lymphatic gland origin. In places there is alveolation, but the growth is nevertheless sarcomatous.

Diseases of the Digestive System.

Enteritis.—103. M., 10. Chronic adhesive peritonitis; ulcerative enteritis and appendicitis; mesenteric glands cretaceous. Body extremely emaciated. It is probable that the sequence of events in this case was ulceration of vermiform appendix, peritonitis, ulceration of gut, drying up of lymphatic glands after acute enlargement. There is no evidence of tuberculosis; the ulcers of intestine have an irregular distribution, but are mostly near peritoneal adhesions.

Appendicitis.—109. M., 8. Appendix absent; stump ligatured; suppurative peritonitis.

169. F. 11. Ulceration of free end of appendix; presence of fæcal calculoid, date-shaped, ½ inch long. Suppurative peritonitis.

204. F., 7½. Appendix absent; stump ligatured. Suppurative peritonitis.

Ulcerative Colitis.—163. F., 50. Mucosa of colon from splenic flexure to anus is extremely ulcerated, the remaining ragged mucosal areas being much thickened. In two places the ulcerative process has reached the peritoneum; but there is no peritonitis. Circular punched out ulcer size of shilling in ascending colon. Kidneys 6 ozs., atrophic nephritis.

Peritonitis.—140. M., 46. Suppurative: no lesion was discoverable; no other morbid change was found bar some few masses of pigmented fibroid tubercles at apices of lungs.

Ulcer of Stomach.—168. F., 45. Suppurative peritonitis: stomach large, hour-glass shaped from presence of ulcer on

lesser curvature half-way between orifices; the edges have been united by sutures which recently gave way. The body of pancreas is adherent to stomach and forms part of floor of ulcer, which is about the size of a sixpenny-piece. About one inch nearer pylorus is the healed cicatrix of another ulcer. Chronic gastritis.

Ulcer of Duodenum.—171. F., 50. Several pints of slimy brownish-black fluid in abdominal cavity (altered blood and gastro-intestinal fluid). Viewed from peritoneum is a circular aperture, nearly the size of a threepenny-piece on anterior surface of first part of duodenum. On removal it is found that there are two deep ulcers of duodenum, one on anterior surface which was perforated, and one on posterior, the two being joined by a furrow, the indication of a cicatricial process in mucosa. Kidneys $6\frac{3}{4}$ ozs., atrophic nephritis.

Volvulus.—167. F., 28. Suppurative peritonitis: volvulus of jejunum; the coil, which is gangrenous, has one and a half turns on the mesentery. Double pyosalpingitis with suppuration of right ovary.

Diarrhœa.—148. F., $\frac{2}{52}$. Bronchitis: broncho-pneumonia. Gastro-intestinal mucosa nil. Diffuse extensive hæmorrhage into both kidneys. Brain soft, convolutions flattened; lateral ventricles contain much thin altered blood. Microscopical examination of kidney showed merely diffuse hæmorrhagic extravasation; no microbes. The hæmorrhage is therefore toxæmic and hæmolytic.

Also 123, 124, 127, 144, 186, 178.

Cancer of Œsophagus.— 81. M., 42. Malignant stricture half-way between the level of tracheal bifurcation and cardiac opening of stomach. Above the site of the cancerous stenosis the œsophagus is dilated and the wall ulcerated. Microscopical examination; epithelioma. By many this growth would be called carcinoma from the alveolar arrangement in certain parts, yet the presence of irregular masses of large epithelial cells which are keratinised decides in favour of squamous epithelioma.

106. F., 67. First four inches of œsophagus infiltrated with firm white neoplasm: lumen stenosed, and surface ulcerated;

invasion of left lobe of thyroid and implication of left recurrent laryngeal. Gastrostomy; peritonitis. Heart, with pericardium which is greatly thickened and universally adherent, 28 ozs.; the thickening is due to secondary infiltration; the growth has invaded the wall of right ventricle appearing on the endocardial surface as a raised white patch. A few lymphatic glands in neck and about heart are infiltrated. Arteries atheromatous. Kidneys 9 ozs.; atrophic nephritis. Microscopical examination shows the growth to be epithelioma.

170. M., 50. Cancerous infiltration 4 inches long midway between tracheal bifurcation and end of larynx. The growth is much disorganised and has ulcerated into the trachea. Recent pleuritis: hypostatic pneumonia of both lower lobes of lungs. Squamous epithelioma.

Cancer of Stomach.—20. M., 54. Cancerous ulcer, size of crown-piece, on lesser curvature of stomach. Secondary infiltration of peritoneum, the omentum being much thickened and drawn up. Secondary deposits in liver. Microscopically the growth is composed of large squamoid epithelial cells; there is no definite alveolation and no keratinisation.

66. M., 54. Cancerous infiltration of pyloric half of stomach with invasion of parts immediately external and adjacent. The cancerous mass, which is white and firm, has broken down at the lower border of stomach, wherein there is a large ragged hole leading into peritoneal sac, which contains much inflammatory and gastro-intestinal fluids. Secondary deposits in liver.

137. Cancerous infiltration of pyloric end; thickening is annular, and about 1½ ins. in breadth. Centre ulcerated; no secondary deposits.

207. F., 46. Cancerous infiltration of lower two-thirds by a white, firm, glistening neoplasm; there is some ulceration. There is chronic peritonitis, malignant infiltration of the peritoneum, and secondary deposits in both ovaries. Lungs pneumonic.

220. M., 67. Stomach greatly distended; annular infiltration of pylorus with white, firm, malignant neoplasm; band from ¾ to 1 in. wide; orifice much stenosed. A few small secondary deposits in gastric mucosa, but none outside stomach. Œsophagus dilated and wall thick. Heart 8 ozs., coronary arteries

calcareous. Kidneys 12 ozs., granular; cyst, size of hen's egg, in right.

Cancer of Sigmoid Flexure.—63. F., 72. Laparotomy and right inguinal colotomy wounds; peritonitis. About 15 inches above anus is a villous cancerous growth in sigmoid flexure. It is about size of a shilling, and by its contraction has so occluded the lumen of the gut that water will not pass through. Above the stricture the gut is greatly dilated, and its wall hypertrophied. No secondary deposits. Numerous diffuse hæmorrhagic extravasation into lungs.

Cancer of Rectum.—29. M., 59. Cancerous infiltration of rectum, with secondary extension into prostate. Hypertrophy of bladder; cystitis, dilatation of ureters, septic abscesses of left kidney. Recent pleuritis. Microscopical examination shows columnar epithelioma with colloid degeneration.

147. F., 35. Annular cancerous growth, 3 ins. long, at upper part of rectum; ulcerating into peritoneal sac; acute peritonitis. Secondary infiltration of peritoneum, of lymphatic glands, and numerous deposits in liver.

Cirrhosis of Liver.—80. M., 37. Liver 150 ozs.; yellow, indurated; surface granular. Spleen 11½ ozs., soft. Kidneys 15 ozs., nil. Deep jaundice. Microscopical examination of liver shows a scant amount of portal fibrosis and much fatty degeneration.

160. F., 60. Liver 32 ozs.; atrophic cirrhosis; œsophageal veins varicose. Spleen 6½ ozs. Pancreas large, hard. Kidneys 9½ ozs. Heart 9¾ ozs., adipose. Arteries atheromatous. Umbilical hernia. Jaundice.

185. M., 56. Liver 50 ozs.; yellow, tough, with granular surface. Spleen 23 ozs. Chronic peritonitis. Arteries atheromatous. Numerous small masses of caseous tubercles in lungs. Jaundice. Ascites.

209. M., 55. Liver 54 ozs., atrophic cirrhosis. Spleen 10 ozs. Kidneys 14½ ozs., granular. Pancreas 4 ozs., hard. Chronic adhesive peritonitis. Ascites. Heart 14 ozs.; recent pericarditis. Both inguinal canals widely patent.

Hydatids of Liver.—145. M., 41. Hydatid cysts of right

lobe. The anterior has been surgically evacuated, the fibrous sheath alone remaining, through a laparotomy opening 4½ ins. long extending from 8th cartilage in direction of umbilicus. The posterior cyst, size of a fœtal head, contains many daughter cysts. Knuckle of ileum of dark chocolate hue, as if from constriction or volvulus, but no marks on gut. Died with symptoms of obstruction.

Cancer of Pancreas.—93. M., 64. Pancreas large and hard; weight with some extraneous tissue 10 ozs.; on section normal aspect found to be lost, the pancreatic tissue having been replaced by a white growth which in body and tail is fibrous and tough; in the head the infiltration is less hard and exudes a milky juice on pressure. A few of the prevertebral lymphatic glands are enlarged and indurated. The intestinal contents are fluid, slimy, and black in small gut, formed, firm and black in colon. The gastro-intestinal mucosa is normal; chronic adhesive peritonitis; much fluid in right pleural sac, the pleura being greatly thickened throughout and the lung carnified and also fibrosed. The left lung is greatly hypertrophied, extending over the heart to right thorax. Bronchitis; microscopical examination of pancreas shows carcinoma, the cells arranged in tubules being columnar or cuboidal.

Diseases of the Urinary System.

Nephritis.

Acute.—223. M., 38. Kidneys 14¾ ozs.: surface smooth, cortex large, colour dark brick-red, pyramids purple, consistence normal, much engorgement. Bladder contains some 4 ozs. of dark brownish-red urine.

Parenchymatous.—36. M., 37. Kidneys 21 ozs.: consistence firm, surface smooth, cortex large, colour brick-red, mottled with areas of pale yellow; pyramids purple. Heart 18 ozs.: hypertrophy of left ventricle. Œdema of aryepiglottic mucosa.

65. F., 23. Right kidney 11¼ ozs.: consistence flabby, surface smooth, cortex large, yellow, mottled with purple striæ; left 1½ ozs., surface irregular from atrophy; ureters nil. Heart

11 ozs.: some hypertrophy of left ventricle; vegetations on mitral and on auricle. Pneumonia: red hepatisation.

96. M., 40. Kidneys 14 ozs.: consistence normal, surface smooth, cortex large, colour brick-red, mottled with yellowish areas and striæ; pyramids purple. Bladder hypertrophied and sacculated; tight stricture of urethra at membraneous portion. Œdema of aryepiglottic mucosa.

188. M., 29. Kidneys 18 ozs., "large white." Left pyo-pneumothorax. Tuberculosis of lungs and tuberculous ulcers of intestines. Heart 17 ozs.; hypertrophy of left ventricle. Liver 73 ozs., nutmeggy. Spleen 13 ozs., soft; no reaction with iodine.

Interstitial.—70. F., 28. Kidneys $1\frac{3}{4}$ and 2 ozs., granular, flabby, yellowish; heart $8\frac{1}{2}$ ozs., nil. Pigmented fibro-caseous tubercles in lungs with excavation. Recent pneumonia.

95. M., 54. Kidneys $5\frac{1}{2}$ ozs., flabby, granular, pale drab, numerous cysts in cortex. Œdema of aryepiglottic mucosa. Heart 19 ozs.; hypertrophy of left ventricle; chronic arteritis. Urate of soda in big toe joints.

104. F., 27. Kidneys $8\frac{1}{4}$ ozs.; surface granular; cortex atrophied. Œdema of aryepiglottic mucosa. Heart with pericardium 20 ozs.; recent pericarditis; mitral ring $3\frac{3}{4}$ inches.

111. M., 59. Kidneys $11\frac{3}{4}$ ozs.; indurated, smooth; colour brownish mottled with yellow. Chronic adhesive peritonitis with "ivory fibrosis" of capsules of liver and spleen. Liver 68 ozs., almost spheroidal in shape; no gall bladder, the ducts opening directly into duodenum. Pneumonia. Heart 13 ozs. Some hypertrophy of left ventricle. Arteries atheromatous. Right inguinal canal patent. Large hydrocele of right tunica vaginalis. Urate of soda in big toe joints.

118. M., 53. Kidneys $8\frac{1}{2}$ ozs.; consistence flabby, surface granular, colour red. Œdema of aryepiglottic mucosa.

121. F., 43. Kidneys 8 ozs.; granular, red. Chronic cystitis. Heart 12 ozs.; some hypertrophy of left ventricle. Urate of soda in big toe joints.

Hydronephrosis.—61. M., 53. Left kidney represented by sacculated cyst which occupies at least half of the abdominal cavity. The ureter is greatly dilated, tortuous, and close to

bladder impervious. The contents of bladder and ureter are dark reddish-brown fluid. The peritoneal sac is also filled with similar fluid, the cyst having ruptured near hilus. In the lowest part of ureter is a uratic calculus, 1 by ½ inch, weighing 67 grains; it is quite free. Right kidney hypertrophied.

Cancer of Bladder.—69. M., 66. Villous carcinoma of fundus. Ureter, calices, and pelvis of right kidney much dilated, and kidney atrophied; compensatory hypertrophy of left kidney. Cystitis. Liver 57 ozs. Cirrhosis "hobnail." Spleen 21½.

Diseases of the Lymphatic System.

Sarcoma.—122. F., 35. Cervical and mediastinal lymphatic glands much enlarged from infiltration with malignant neoplasm, soft, white, and exuding a milky juice on section. The growth has invaded both cardiac auricles, inside which it appears as soft white masses. The œsophageal wall is also invaded, the lumen just above the tracheal bifurcation being much stenosed. The growth has also extended along the root of right lung into the pulmonary tissue, the bronchi of which are dilated and filled with fœtid pus. Right lung pneumonic and carnified from pressure of fluid in pleural sac, which is much thickened. Microscopical examination shows small round-celled sarcoma.

Diseases of the Organs of Locomotion.

Sclerosis of Spine.—11. F., 34. Ankylosis of dorso-lumbar vertebræ; bones sclerosed with disappearance of intervertebral disks. Prevertebral abscess reaching as high as 6th dorsal. Angular curvature in dorso-lumbar region. Fistulous passage from abscess leads out to right flank. Spleen 4½ ozs.; "amyloid" reaction. Kidneys 17½ ozs.; "large white"; no reaction with iodine. Heart 6½ ozs. Purulent fluid and lymph on right pleural sac. Lungs nil. No evidence of tuberculosis.

Caries of Spine.—166. F., 11. Angular curvature of dorsal region, the upper ten bones being involved. Most of the osseous tissue of the bodies has disappeared, and their sites are replaced by soft, gritty, caseous matter, which in the right thorax forms

a large bulging, adjacent and adherent to right upper lobe. Lungs much engorged. Heart 9 ozs.; cavities filled with soft black clot. Right heart hypertrophied and dilated; its apex is much below that of the left.

Morbus Coxæ.—13. F., 12. Left lower limb 4 inches shorter than the right, inverted, flexed. Much brawny fibrosis on both sides of innominate bone, and about upper end of femur, wherein are numerous fistulous passages. Head of femur absorbed, and the hip joint represented by a mass of fibrosis and the carious femoral neck; joint not fixed, but allows of a little movement. Shaft of femur much atrophied. Viscera "amyloid." There is no evidence of tuberculosis.

Diseases of the Generative System.

Pyosalpinx.—215. F., 37. The uterus and appendages form a fixed mass almost filling the pelvis. The uterus is bestudded with numerous small myomata (one recently removed). Both fallopian tubes much elongated; tortuous; terminally dilated; distended with pus. Ovaries crenated. Left ovary probably represented by cyst filled with fluid containing cholesterine crystals. Chronic pelvic adhesive peritonitis. Recent peritonitis from rupture of right fallopian tube.

Cancer of Uterus.—38. F., 56. Uterus 4 inches long; free, movable. On incision the fundus is found to be infiltrated with villous cancer which has destroyed mucosa, submucosa, and much of the muscular tissue, especially on the anterior aspect. Os externum small, circular. Appendages nil. Subcutaneous abscesses in left hand and thigh; pus contains streptococcus. Microscopical examination of uterus shows a columnar carcinoma, *i.e.*, tubules of columnar cells closely resembling those of the uterine mucosa.

Surgical Operations and Injuries.

Otitis.—56. M., 21. Operation for suppuration of mastoid cells. Suppurative meningitis. Abscess of cerebellum. Cerebral convolutions much flattened; large quantity of fluid in lateral ventricles. Pus in both middle ears, and sclerosis of both petrous bones.

72. F., 7. Operation for temporo-sphenoidal and cerebellar abscess. Suppurative meningitis; pus in left middle ear; right tympanum represented by cavity.

85. M., 4½. Operation for temporo-sphenoidal abscess. Left suppurative otitis media. Right ear normal. Suppurative meningitis.

187. M., 21. Suppurative cerebro-spinal meningitis. Abscess of right temporo-sphenoidal lobe which has recently burst into lateral ventricle. The abscess is in direct communication with tympanum by a hole in the roof; cavity of tympanum filled with curdy pus. Left petrous bone normal. In the pus of the abscess and of the meningitis are two organisms; one staphylococcus, the other a bacillus, not unlike B. diphtheriæ in size, shape, and appearance.

Cellulitis.—120. M., $1\frac{8}{12}$. Suppurative inflammation of cellular tissue of right inguinal region, of pubes and of pelvis in front of bladder. Peritonitis. On under surface of right foot is the healed site of a recent sore.

172. F., 38. Diffuse abscess of left side of pelvis and upper part of thigh. The abscess communicates with the lower part of sigmoid by an aperture size of sixpenny piece, and also with the uterus by a circuitous fistulous passage which enters the cervix about ½ inch above the os.

Intermuscular Sinus.—154. F., 7. Extensive intermuscular sinus in left thigh and buttock. Brain 42 ozs. Convolutions not flattened. Some of the larger pial veins in both hemispheres are clotted up. Whole of superior longitudinal sinus is filled with firm adherent black clot. The coagulum extends into lateral sinus, and into right jugular vein as far as angle of jaw, where it ends abruptly as a conical stump. The clot in lateral sinus and jugular vein is partially decolourised. Sanious fluid in lateral ventricles. Bones, thoracic, and abdominal viscera nil.

Intussusception.—116. M., 1. Part of ileum and colon have been removed and the ends united by a Murphy's button. Slight peritonitis.

Fracture of the Skull.—60. M., 45. Of base with large subdural hæmorrhage.

128. M., 37. Of the base with large intermeningeal hæmorrhage. Much cicatricial tissue in splenic region. Spleen represented by a spleniculus, size of Spanish nut; this viscus was removed several years ago by Mr. Bernard Pitts for traumatism. The solitary glands in last 3 feet of ileum are enlarged. The lymphatic glands are not hypertrophied.

132. M., $2\frac{8}{12}$. Of the base.

135. M., 35. Of the base; also of clavicles, two ribs and spines of vertebræ. Rupture of liver, spleen, and left kidney. Both feet are in condition of talipes equinus; left leg 2 inches shorter than right, and the limb less than half the thickness of right, the leg being relatively more wasted than the thigh. The left hand and arm are in analogous condition to leg, *i.e.*, hand is firmly flexed on wrist, the fingers being drawn together and semi-extended; forearm markedly wasted.

141. F., $1\frac{6}{12}$. Skull bones much fractured, and brain lacerated and protruding.

196. M., 72. Fracture of base and vertex; much intermeningeal hæmorrhage. Liver 94 ozs., fatty.

203. M., 40. Compound comminuted fracture of bones of vertex and base. Brain lacerated; much clot in intermeningeal space. Also fracture of clavicle, ribs, innominate bone, and femur. Rupture of lung, liver, and right kidney.

218. M., 26. Of base. Large subdural hæmorrhage. Much altered blood in stomach.

Fracture of Spine.—49. M., 42. Fracture—dislocation of spine between 6th and 7th cervical vertebræ, the ligaments at this level being ruptured and the spine dislocated backwards. The spinal cord is quite disorganised.

Fracture of Pelvis.—173. M., 8. Complete separation of symphysis pubis and of right sacro-iliac synchondrosis and fracture through the right pubic ramus. Membraneous urethra torn completely through.

Fracture of Femur.—46. F., 77. Extra-capsular fracture of left femur; the aspect of the cancellous tissue of great trochanter, which is much disorganised, suggests that there had been a partially impacted fracture which had subsequently given way. The fracture is Y-shaped. In the right adrenal is a tumour the

size of a Spanish nut, and in the left several small tumours of similar appearance. Microscopically these tumours are composed of adrenal cells, which are enlarged; the cytoplasm is tenuous and looks as if made up of a delicate reticulum.

Rupture of Liver.—206. M., 70. Right lobe of liver torn completely across from back to front. Peritoneal sac contains several pints of fluid blood. Also fracture of five right ribs. Kidneys 10¼ ozs.; granulating cystic. Heart 14½ ozs.; hypertrophy of left ventricle.

Rupture of Common Bile Duct.—149. M., 5. Bile duct torn across just above junction with pancreatic duct and close to duodenum. Liver 19½ ozs.; normal. Peritoneum deeply bile stained. Slight comparatively recent adhesive peritonitis. Cystoid loculus of peritoneal sac in space between liver, stomach, and diaphragm; the cavity contains bilious fluid and is in communication with the exterior by the fistulous remainder of operation wound. The fæces are devoid of pigment, and on microscopical examination were found to contain large numbers of oil globules. Also fracture of 9th and 10th costal cartilages. Survived the accident 27 days. Body much emaciated.

Burn.—176. M., 4. Greater part of body surface burnt (third and fourth degrees). Penis erect, retracted.

180. F., $2\frac{4}{12}$. Anterior surface of trunk and also face burnt (third degree). Laryngeal mucosa extremely œdematous.

190. M., 40. Skin of right upper extremity ulcerated; granulations healthy, edges healing. Pneumonia. Gastro-intestinal mucosa quite normal. Died on the 18th day after burn.

Asphyxia.—76. 108. Infants brought in dead from overlying.

Æther Poisoning.—112. F., 52. Was anæsthetised with gas and æther for excision of bursa patellæ; died shortly after the operation. Tracheotomy wound: bloody fluid issuing from mouth and nose. Chronic osteoarthritis of foot joints. Costal cartilages calcified. Lungs emphysematous and œdematous. Heart 12 ozs., flaccid; blood in cavities fluid, dark; excess of subepicardial adipose tissue; wall of right ventricle about apex

practically replaced by fat; numerous areas of adipose tissue immediately beneath the ventricular endocardium, and also in the muscle substance. Aorta very "atheromatous," the arteritis being characterised as a soft white swelling of the parts affected. Abdominal viscera engorged, otherwise nil. Microscopical examination of the heart muscle shows that the wall of the ventricle is irregularly infiltrated with adipose tissue which reaches to immediately beneath the endocardium (special and ordinary histological staining). There is no evidence of the so-called " fatty " degeneration of the muscular fibres.

Carbolic Acid Poisoning.—129. F., 73. Skin of chin and about the angles of the mouth yellow, stiff, shiny. Mouth and fauces nil. Mucosa of larynx covered with thin white pseudo-membrane (superficial slough of mucosa); aryepiglottic mucosa œdematous; tracheitis; suppurative bronchitis; lungs much pigmented, œdematous and emphysematous. Arteries atheromatous. Some slight superficial necrosis of œsophageal mucosa. Gastric mucosa smooth, white. Intestines nil. Submaxillary glands large, buff-coloured. Fibro-myoma in left broad ligament close to cervix.

Unclassified.—88. F., 4. Brought in moribund. Body well nourished; no marks of violence. Brain 48 ozs.; subarachnoid œdema; nervous tissue normal; middle ears normal; chronic tonsillitis; no ulceration and no membrane. Lungs and pleuræ nil. Heart 3¾ ozs., globose, in diastole; cavities filled with soft decolourised clot; no endocarditis. About a pint of clear serous fluid in peritoneal sac. Stomach contains about 3-4 ozs. of gastric-smelling fluid in which are numerous small black flakes; these on microscopical examination appear as black spherules. Intestinal contents soft, scanty, yellowish drab. Gastro-intestinal mucosa normal, bar hyperæmia of Peyer's glands. Liver 20 ozs., yellowish, rather soft. Pancreas 1 oz., nil. Spleen 1 oz., firm, dark red; homogeneous. Kidneys 3¾ ozs., smooth; cortex pale drabby-pink; pyramids purple.

MEDICAL REGISTRAR'S REPORT FOR THE YEAR 1898.

By Dr. J. PORTER PARKINSON.

Number of patients in Hospital, Dec. 31st, 1897		74
Admitted to Medical Wards during 1898		1,152
Average number of patients in Hospital		67·4
Average stay of each patient in Hospital		22·6 days
Recovered or relieved		949
Males	558	
Females	391	
Unrelieved, including those transferred to Surgical or Obstetric Wards		45
Males	26	
Females	19	
Died		158
Males	94	
Females	64	

The mortality during the year was 14·53 per cent.

Table A.

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex.			Age.								Result.						Remarks.
					Males.	Females.	Total.	Under 5 yrs	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.	Over 60.	Death.		Unrelieved.		Relieved.		
																M	F	M	F	M	F	
General Diseases:																						
Group A:																						
Enteric fever	3	3	2	17	14	11	25	2	4	9	4	5	...	...	...	4	1	...	...	10	10	
Scarlet fever	1	...	...	...	...	1	1	...	...	1	...	...	...	...	...	...	...	...	...	...	1	
Diphtheria	5	3	2	5	7	8	15	9	3	3	...	...	...	...	...	2	3	...	...	5	5	
Influenza	4	1	2	1	5	3	8	...	...	1	4	2	...	...	1	...	...	...	...	5	3	
Erysipelas	2	...	...	...	2	...	2	...	...	...	...	1	...	...	1	1	...	...	...	1	...	
Cerebro-spinal meningitis	1	...	...	...	1	...	1	...	...	1	...	...	...	...	...	...	...	...	...	1	...	
Malaria	1	1	2	...	4	...	4	...	...	...	1	1	1	...	1	...	...	...	...	4	...	
Whooping cough	1	2	2	...	2	3	5	4	1	...	...	...	...	...	...	...	...	...	1	2	2	
Dysentery	...	1	...	...	1	...	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...	
Measles	...	...	1	...	...	1	1	...	...	...	...	1	...	...	...	...	1	...	...	...	...	
Group B:																						
Poisons:																						
Alcohol	1	5	3	2	10	1	11	...	...	...	1	4	4	2	...	...	...	1	...	9	1	
Lead	2	...	2	1	5	...	5	...	...	...	...	1	3	1	...	...	...	...	...	5	...	
Nitric acid	...	...	1	...	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	1	...	
Sulphuric acid	...	...	...	1	...	1	1	...	...	...	1	...	...	...	...	...	1	...	...	...	...	
? Poisoning	...	...	...	1	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	1	...	
Ice cream	...	1	...	...	...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	1	
Sausage	...	1	...	...	1	...	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...	
Camphor	...	1	...	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1	

Group C:																					
Developmental Diseases:																					
Debility	3	1	...	2	3	3	6	...	...	2	1	2	...	1	...	...	...	...	...	3	3
Marasmus	1	1	...	...	2	...	2	2	...	...	...	...	...	...	...	1	...	...	...	1	...
Group D:																					
Not classified:																					
Syphilis, congenital	1	1	...	...	1	1	2	2	...	...	...	...	...	...	...	1	1	...	...	...	...
„ acquired	...	...	1	1	1	1	2	...	...	...	...	2	...	...	...	...	...	...	...	1	1
Acute rheumatism	6	16	10	16	29	19	48	3	9	15	7	12	1	...	...	2	...	...	..	27	19
Subacute „	2	3	1	10	3	13	16	...	3	3	7	2	1	...	...	...	...	...	...	3	13
Chronic „	1	1	...	...	...	2	2	...	...	...	1	...	...	...	1	...	...	...	...	...	2
Gout	2	...	3	2	5	2	7	...	...	...	...	1	4	1	1	...	...	...	...	5	2
Osteo-arthritis	1	1	1	...	1	2	3	...	...	...	2	...	1	...	...	...	...	...	...	1	2
Gonorrhœal rheumatism	2	1	...	3	6	...	6	...	...	...	3	3	...	...	...	...	...	1	...	5	...
Rickets	1	1	3	...	2	3	5	5	...	...	...	...	...	...	...	1	...	...	2	2
Anæmia	9	4	...	3	...	16	16	...	...	2	9	4	1	...	...	...	...	...	...	...	16
Leucocythæmia	...	...	4	...	3	1	4	2	...	1	...	...	...	...	1	1	...	...	...	2	1
Lymphadenoma	1	1	...	...	1	1	2	...	1	...	1	...	...	...	...	1	...	...	...	...	1
Lymphosarcoma	1	...	...	...	...	1	1	...	...	...	1	...	...	...	...	...	1	...	...	...	...
Purpura	1	...	...	...	...	1	1	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Hæmophilia	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Tuberculosis	3	7	5	4	7	12	19	7	7	...	...	2	2	1	...	7	9	...	...	...	3
Diseases of the Nervous System:																					
Brain:																					
Hemiplegia	4	3	4	2	8	5	13	...	...	...	3	2	3	5	...	2	1	...	...	6	4
Cerebral hæmorrhage	1	3	...	...	4	...	4	...	...	...	...	...	2	2	...	2	...	1	...	1	...
„ softening	...	1	...	...	...	1	1	...	...	1	...	...	...	...	...	...	...	...	...	...	1
„ tumour	1	...	1	...	2	...	2	...	1	...	...	...	...	1	...	2	...	...	...	...	...
„ abscess	...	1	...	...	1	...	1	...	...	...	...	1	...	...	...	1	...	...	...	...	...
Meningitis	1	2	4	3	6	4	10	5	1	1	3	...	...	...	...	3	3	1	...	2	1
Cerebral hyperæmia	...	...	1	...	1	...	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...

TABLE A—*continued.*

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex.			Age.							Result.						Remarks.
					Males.	Females.	Total.	Under 5 yrs.	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.	Over 60.	Death.		Unrelieved.		Relieved.		
																M	F	M	F	M	F	
DISEASES OF THE NERVOUS SYSTEM—*continued.*																						
Brain—continued.																						
Paralysis agitans	1	1	...	...	2	...	2	...	...	...	...	...	...	2	...	...	...	...	...	2	...	
Aphasia	...	...	...	1	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1	
Hydrocephalus	1	1	...	...	1	1	2	1	...	...	...	1	...	...	...	...	1	...	...	1	...	
Concussion	...	...	...	2	1	1	2	...	2	...	...	...	...	...	...	...	...	1	1	...	...	
Cord:																						
Acute myelitis	...	...	...	1	...	1	1	...	...	...	...	1	...	...	...	...	1	...	...	...	...	
Anterior poliomyelitis	3	...	...	1	1	3	4	3	1	...	...	...	...	...	...	...	...	...	1	1	2	
Locomotor ataxy	2	...	2	...	4	...	4	...	...	...	...	1	1	2	...	...	...	...	...	4	...	
Disseminated sclerosis	...	...	1	...	1	...	1	...	...	...	...	1	...	...	...	...	...	1	...	. .	...	
Lateral sclerosis	1	...	1	...	2	...	2	...	...	...	...	1	1	...	...	...	...	...	...	2	...	
Functional paraplegia	1	1	1	...	1	2	3	...	...	...	2	...	1	...	...	...	...	...	...	1	2	
Ataxic paraplegia	...	1	...	...	1	...	1	...	...	...	...	...	...	...	1	...	...	...	...	1	...	
Progressive muscular atrophy	1	...	1	...	2	...	2	...	...	...	1	...	1	...	...	...	...	...	...	2	...	
Diver's paralysis	...	...	...	1	1	...	1	...	...	...	...	1	...	...	...	...	...	1	...	...	...	
Various:																						
Neuritis, alcoholic	1	2	1	3	...	7	7	...	...	...	...	3	2	2	...	...	...	...	...	...	7	
„ diphtheritic	2	...	...	...	1	1	2	2	...	...	...	...	...	...	...	..	1	...	...	1	...	
„ peripheral	...	1	1	2	1	3	4	...	...	...	2	...	1	...	...	...	...	...	...	1	3	
Sciatica	1	1	1	1	3	1	4	...	...	...	...	2	...	2	...	...	...	...	...	3	1	
Epilepsy	2	1	2	...	4	1	5	...	...	4	...	1	...	...	...	...	...	...	...	4	1	

Migraine	1	...	...	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Chorea	9	2	3	2	3	13	16	...	4	8	4	...	...	...	...	...	...	...	...	3	13
Hysteria	1	1	3	...	1	4	5	...	...	2	1	2	...	...	...	...	...	...	...	1	4
Neuralgia	...	1	...	...	...	1	1	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Convulsions	1	4	1	1	2	5	7	5	1	...	...	1	...	...	...	1	1	...	...	1	4
Neurasthenia	1	...	...	...	...	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Pseudohypertrophic paralysis	1	...	...	...	1	...	1	...	...	...	...	...	...	1	...	...	...	...	...	1	...
Hemianæsthesia	1	...	...	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1	...
Functional tremor	2	1	..	...	2	1	3	...	...	...	1	...	2	...	...	...	...	...	...	2	1
Spasmodic torticollis	...	1	...	...	1	...	1	...	1	...	...	...	...	...	...	...	...	...	...	1	...
? Thompsen's disease	1	...	...	...	1	...	1	1	...	...	...	...	...	...	...	...	...	1	...	...	...
Raynaud's disease	...	...	1	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Neuromimesis	...	1	...	1	...	2	2	...	...	...	2	...	...	...	...	...	...	...	...	...	2
Mental:																					
Mania	...	...	...	1	1	...	1	...	...	...	...	...	...	1	...	...	...	1	...	...	...
General paralysis of the insane	...	1	...	...	...	1	1	...	...	...	...	...	1	...	...	...	...	...	1	...	...
Idiocy	1	...	...	1	2	...	2	2	...	...	...	...	...	...	...	...	...	2	...	...	...
Delusions	1	...	...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	1	...
DISEASES OF THE CIRCULATORY SYSTEM:																					
Heart:																					
Dilated heart	2	2	4	3	7	4	11	...	...	...	1	2	3	3	2	3	1	...	...	4	3
Fatty heart	...	1	...	...	1	...	1	...	...	...	...	...	...	...	1	...	...	...	..	1	...
Irregular heart	2	1	...	2	4	1	5	...	...	...	1	...	3	...	1	...	...	...	...	4	1
Angina pectoris	...	...	2	...	2	...	2	...	...	...	...	..	...	2	...	...	...	...	...	2	...
Endocarditis	...	...	...	1	...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Ulcerative endocarditis	...	1	1	1	2	1	3	...	...	1	1	1	...	...	...	1	...	...	...	1	1
Congenital heart disease	1	...	1	...	2	...	2	1	1	...	...	...	...	...	...	...	...	...	...	2	...
Malposition of heart	1	...	...	...	1	...	1	...	1	...	...	...	...	..	...	...	...	...	...	1	...
Myocarditis (septic)	...	...	...	1	1	...	...	..	...	...	...	1	...	...	...	...	...	1	...	...	...
Pericarditis	1	...	...	...	1	...	1	...	1	...	...	...	...	...	...	1	...	...	...	...	...

TABLE A—*continued.*

DISEASE.	Jan. to March.	April to June	July to Sept.	Oct. to Dec.	Sex.			Age.								Result.						Remarks.
					Males.	Females.	Total.	Under 5 yrs.	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.	Over 60.	Death.		Unrelieved.		Relieved.		
																M	F	M	F	M	F	
DISEASES OF THE CIRCULATORY SYSTEM—*continued.*																						
Heart—continued.																						
Mitral constriction	..	...	1	1	...	2	2	...	...	...	1	...	...	1	...	...	1	...	...	...	1	
„ regurgitation	1	1	3	1	2	4	6	1	1	...	...	2	2	...	...	...	2	...	...	1	3	
„ double	8	3	10	9	11	19	30	...	1	5	14	4	2	4	...	...	1	1	2	10	16	
Aortic stenosis	...	...	1	...	1	...	1	...	...	...	...	...	...	...	1	...	...	...	...	1	...	
„ regurgitation	...	...	2	4	4	2	6	...	1	1	...	...	3	...	1	2	1	...	...	2	1	
„ double	5	7	11	2	19	6	25	...	1	4	5	4	5	5	1	3	1	1	...	15	5	
Pulmonary regurgitation	1	...	...	...	...	1	1	...	..	...	...	1	...	...	...	...	...	...	...	...	1	
Arteries:																						
Thoracic aneurysm	2	2	1	1	5	1	6	...	...	...	...	...	3	3	...	3	...	...	...	2	1	
Pulsating aorta	...	...	...	1	...	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...	1	
Veins:																						
Venous thrombosis	3	1	2	3	3	6	9	...	...	...	3	3	1	1	1	...	...	1	...	2	6	
DISEASES OF THE RESPIRATORY SYSTEM:																						
Laryngitis, acute	...	...	...	1	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	
„ chronic	...	...	1	...	1	...	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...	
„ tuberculous	...	...	2	...	1	1	2	...	...	...	1	1	...	...	...	...	1	...	...	1	...	
„ syphilitic	...	...	1	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1	
Tracheal stenosis	...	...	...	1	...	1	1	...	...	...	...	...	...	...	1	...	...	..	...	...	1	

Epistaxis	1	...	...	...	1	...	1	...	...	...	...	...	...	...	1	...	...	...	...	1	...
Acute bronchitis	...	1	2	5	...	8	8	4	...	1	...	1	1	1	...	...	...	...	...	...	8
Chronic ,,	2	5	6	4	10	7	17	9	1	...	1	2	...	2	2	1	...	...	...	9	7
Bronchiectasis	...	...	1	2	2	1	3	1	...	...	...	2	...	...	...	1	...	...	...	1	1
Pneumonia, lobar	14	25	28	16	57	26	83	46	6	10	5	3	9	2	2	6	2	...	...	51	24
,, broncho-	8	5	5	13	9	22	31	31	...	...	...	...	...	...	...	4	11	...	...	5	11
Phthisis	10	12	10	7	30	9	39	...	...	2	10	15	8	4	...	6	...	5	1	19	8
Emphysema	7	4	5	3	17	2	19	...	...	...	1	5	3	5	5	3	...	...	...	14	2
Pneumothorax	...	...	...	1	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1	...
Gangrene of lung	...	...	1	...	1	...	1	...	...	...	...	...	1	...	...	1	...	...	...	3	...
Fibrosis ,,	2	...	1	...	3	...	3	...	...	1	1	1	...	...	...	...	...	...	...	...	...
Œdema ,,	...	...	1	...	1	...	1	...	...	...	...	...	...	...	1	1	...	...	...	...	...
Pleurisy, simple	...	...	1	1	2	...	2	...	...	...	...	2	...	...	...	...	...	...	...	2	...
,, with effusion	3	1	2	2	5	3	8	...	...	...	4	3	...	...	1	...	...	...	...	5	3
Empyema	3	2	1	1	5	2	7	2	1	...	1	1	1	1	...	1	...	1	...	3	2
Thickened pleura	...	1	2	...	1	2	3	...	...	3	...	...	...	...	...	...	...	...	1	1	1
Mediastinal tumour	...	...	...	1	1	...	1	...	...	...	...	1	...	...	...	...	...	...	...	1	...
DISEASES OF THE DIGESTIVE SYSTEM :																					
Glossitis	...	...	1	...	...	1	1	...	...	1	...	...	...	..	...	...	...	...	...	...	1
Tonsillitis	2	6	12	12	15	17	32	2	6	9	10	3	1	1	...	...	...	...	...	15	17
Pharyngitis	1	...	...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	1	...
Gumma of pharynx	...	1	...	...	1	...	1	...	...	...	...	...	...	...	1	...	...	...	...	1	...
Gastric ulcer	5	17	10	13	9	36	45	...	..	10	18	14	3	...	...	3	1	...	...	6	35
,, cancer	1	...	...	...	1	...	1	...	...	...	...	...	...	1	...	...	...	1	...	...	...
,, dilatation	2	4	1	2	5	4	9	...	...	...	1	4	...	3	1	...	...	2	2	3	2
,, adhesions	...	...	...	1	...	1	1	...	...	...	1	...	...	...	...	...	..	...	...	...	1
Vomiting	1	2	1	...	1	3	4	2	...	...	2	...	...	...	...	...	...	...	...	1	3
Dyspepsia	4	3	2	5	6	8	14	1	1	...	8	...	2	2	...	...	...	...	...	6	8
Gastro-enteritis	...	1	10	6	8	9	17	14	1	1	1	...	...	...	...	2	5	...	...	6	4
Typhlitis	3	1	...	...	4	...	4	...	...	3	1	...	...	...	...	2	...	...	...	2	...
Enteritis	...	1	3	...	2	2	4	2	...	...	...	2	...	...	...	...	...	...	...	2	2
Colitis	...	...	1	...	...	1	1	...	...	...	...	...	...	1	...	...	...	...	...	...	1
Intestinal obstruction	...	1	...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	1	...

TABLE A—*continued.*

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex.			Age.								Result.						Remarks.
					Males.	Females.	Total.	Under 5 yrs.	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.	Over 60.	Death.		Unrelieved.		Relieved.		
																M	F	M	F	M	F	
DISEASES OF THE DIGESTIVE SYSTEM—*continued.*																						
Enteroptosis	...	1	...	2	...	3	3	...	...	...	...	...	...	3	...	...	...	...	...	...	3	
Carcinoma of intestine	...	...	1	...	...	1	1	...	...	...	...	...	...	1	...	...	...	...	1	...	...	
Constipation	2	3	1	8	8	5	13	2	1	5	3	...	3	...	...	...	...	...	...	8	5	
Diarrhœa	2	1	7	2	1	11	12	8	1	...	1	...	1	...	1	1	5	...	...	...	6	
Colic	...	1	...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	1	...	
Abdominal tumour	1	1	2	1	1	4	5	...	...	...	1	...	2	2	...	...	1	...	1	1	2	
DISEASES OF THE LIVER:																						
Cirrhosis	2	7	4	3	12	4	16	...	...	...	1	2	8	4	1	2	1	...	...	10	3	
Malignant disease	...	3	1	3	5	2	7	...	...	...	...	2	1	...	4	4	...	...	...	1	2	
Syphilis	...	...	...	1	...	1	1	...	...	...	...	...	1	...	...	...	...	...	1	...	...	
Gall-stones	3	...	...	...	...	3	3	...	...	...	...	2	...	1	...	...	...	...	...	...	3	
Hydatid	...	...	...	1	...	1	1	...	...	1	...	...	...	...	...	...	1	...	...	...	...	
Abscess	...	1	1	...	2	...	2	...	...	...	1	1	...	...	...	...	...	...	...	2	...	
DISEASES OF THE PERITONEUM:																						
Acute peritonitis	...	1	...	...	...	1	1	...	...	...	1	...	...	...	...	1	...	...	...	...	...	
Chronic „	1	3	...	...	2	2	4	...	...	...	...	2	1	1	...	...	...	...	...	2	2	
Tubercular „	1	1	...	...	2	...	2	1	...	1	...	...	...	...	...	...	...	...	...	2	...	
Ascites	...	1	..	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	

DISEASES OF THE KIDNEYS:																					
Acute nephritis	...	1	...	1	1	1	2	...	...	1	1	...	...	...	...	...	...	...	...	1	1
Chronic " L.W.K.	7	9	7	1	13	11	24	...	2	3	5	5	5	4	...	...	2	1	...	12	9
" " G.C.K.	3	2	...	1	5	1	6	...	...	...	...	2	4	...	...	3	...	...	...	2	1
Stone in kidney	...	...	1	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Moveable "	...	1	1	...	...	2	2	...	...	1	1	...	...	...	...	...	...	...	...	...	2
Renal colic	...	1	...	...	1	...	1	...	...	...	...	...	...	1	...	...	...	...	...	1	...
Diabetes mellitus	3	1	3	2	5	4	9	...	...	2	1	3	3	...	...	3	...	...	1	2	3
DISEASES OF THE THYROID BODY:																					
Myxœdema	1	...	...	...	...	1	1	...	...	1	...	...	...	...	...	...	...	...	...	...	1
Exophthalmic goitre	...	1	...	...	...	1	1	...	...	...	...	1	...	...	...	...	...	...	...	...	1
DISEASES OF THE SKIN:																					
Herpes zoster	...	1	...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	1	...
Purpura	...	2	...	1	1	2	3	...	2	1	...	...	...	...	...	...	...	...	...	1	2
Erythema nodosum	...	...	1	...	...	1	1	...	...	...	...	1	...	...	...	...	...	...	...	...	1
Pityriasis rubra	...	...	1	...	1	...	1	...	...	...	...	...	...	1	...	1	...	...	...	...	...
Bulbous eruption	...	...	...	1	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	1	...
VARIOUS:																					
Nil	1	2	...	3	3	3	6	3	1	...	...	1	1	...	...	...	...	...	...	3	3
Miscarriage	1	...	...	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Elephantiasis	1	...	...	...	...	1	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1
Burn	1	...	...	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Abscess	2	...	2	4	2	6	8	4	...	1	3	..	...	...	...	...	...	...	1	2	5
Cellulitis	..	1	...	...	1	...	1	...	...	1	...	...	...	...	...	...	...	...	..	1	...
Pregnancy	...	1	1	1	...	3	3	...	...	2	1	...	...	...	...	...	...	...	2	...	1
Stricture of urethra	...	2	...	...	2	...	2	...	...	...	1	1	...	...	...	...	...	2	...	...	...
Ulcer	...	1	1	...	1	1	2	...	...	1	1	...	...	...	...	...	...	...	...	1	1
Pseudo-erysipelas	...	1	...	...	...	1	1	...	...	...	...	...	1	...	...	...	...	...	...	...	1

TABLE A—*continued.*

DISEASE.	Jan. to March.	April to June.	July to Sept.	Oct. to Dec.	Sex.			Age.								Result.						Remarks.
					Males.	Females.	Total.	Under 5 yrs.	5—10.	10—20.	20—30.	30—40.	40—50.	50—60.	Over 60.	Death.		Unrelieved.		Relieved.		
																M	F	M	F	M	F	
VARIOUS—*continued.*																						
Facial carbuncle	...	1	...	...	...	1	1	1	...	...	...	...	...	...	...	...	1	...	...	...	...	
Spinal caries	...	1	...	...	1	...	1	...	1	...	...	...	...	...	...	1	...	...	...	...	...	
Otitis media	...	...	1	1	2	...	2	...	...	1	1	...	...	...	...	...	...	1	...	1	...	
Tuberculous arthritis	...	...	1	...	...	1	1	1	...	...	...	...	...	...	...	...	1	...	...	...	...	
Bursitis	...	...	1	...	...	1	1	...	...	1	...	...	...	...	...	...	...	...	...	...	1	
Catarrh	...	...	...	1	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	1	...	
Concussion	...	...	...	1	...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	...	1	
Sarcoma	...	...	2	...	2	...	2	...	...	...	...	1	...	1	...	2	...	...	...	...	...	
Myalgia	...	...	1	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	...	1	...	
Cataract	...	...	1	...	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	1	...	

TABLE B.—*List of Deaths in the Medical Wards.*

	Males.		Females.
GENERAL DISEASES:			
Enteric fever	4	...	1
Diphtheria	2	...	3
Erysipelas	1	...	0
Measles	0	...	1
POISONS:			
Sulphuric acid	0	...	1
DEVELOPMENTAL DISEASES:			
Marasmus	1	...	0
NOT CLASSIFIED:			
Congenital syphilis	1	...	1
Acute rheumatism	2	...	0
Rickets	0	...	1
Leucocythæmia	1	...	0
Lymphosarcoma	1	...	0
Lymphadenoma	0	...	1
Tuberculosis	7	...	9
DISEASES OF THE NERVOUS SYSTEM:			
Hemiplegia	2	...	1
Cerebral hæmorrhage	2	...	0
„ tumour	2	...	0
„ abscess	1	...	0
Meningitis	3	...	3
Cerebral hyperæmia	1	...	0
Hydrocephalus	0	...	1
Acute myelitis	0	...	1
Diphtheritic neuritis	0	...	1
Convulsions	1	...	1
DISEASES OF THE CIRCULATORY SYSTEM:			
Dilated heart	3	...	1
Ulcerative endocarditis	1	...	0
Pericarditis	1	...	0
Mitral constriction	0	...	1
„ regurgitation	0	...	2
„ double	0	...	1
Aortic regurgitation	2	...	1
„ double	3	...	1
Thoracic aneurysm	3	...	0

	Males.		Females.
Diseases of the Respiratory System:			
Tuberculous laryngitis	0	...	1
Chronic bronchitis	1	...	0
Bronchiectasis	1	...	0
Lobar pneumonia	6	...	2
Broncho pneumonia	4	...	11
Phthisis	6	...	0
Emphysema	3	...	0
Gangrene of lung	1	...	0
Œdema of lung	1	...	0
Empyema	1	...	0
Diseases of the Digestive System:			
Gastric ulcer	3	...	1
Gastro-enteritis	2	...	5
Typhlitis	2	...	0
Diarrhœa	1	...	5
Abdominal tumour	0	...	1
Cirrhosis of liver	2	...	1
Malignant disease of liver	4	...	0
Hydatid of liver	0	...	1
Acute peritonitis	1	..	0
Diseases of the Kidneys:			
Chronic nephritis, L.W.K.	0	...	2
„ G.C.K.	3	...	0
Diabetes mellitus	3	...	0
Diseases of the Skin:			
Pityriasis rubra	1	...	0
Various:			
Facial carbuncle	0	...	1
Spinal caries	1	...	0
Sarcoma	2	...	0
Total	94	...	64

SURGICAL REGISTRAR'S REPORT FOR THE YEAR 1898.

By E. PERCY PATON, M.S., M.D.

The total number of cases under treatment in the Surgical Wards during 1898 was 1,349, viz.:—

	Males.	Females.	Total.
Remaining in Hospital December 31st, 1897...	42	40	82
Admitted during 1898	785	482	1,267
	827	522	1,349
Of these there were:			
Discharged, cured or relieved	739	456	1,195
Died	50	25	75
Transferred to Medical Wards.....	1	1	2
Remaining in Hospital December 31st, 1898	37	40	77
	827	522	1,349

The death rate per cent. has been 5·55.

TABLE I.—*Statistical tables of Diseases, Injuries, and Operations, with a table of Infectious Diseases admitted into or occurring in the Surgical Wards during* 1898.

DISEASES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	−5	−10	−20	−30	−40	−50	−60	+60	R.	D.	
GENERAL DISEASES:														
Septicæmia	1	1	...	...	...	...	1	...	...	...	...	1	...	Primary seat streptococcic infection of tonsil.
Rickets	1	...	1	...	1	...	...	...	...	...	...	1	...	
Gangrene, vascular	1	1	...	...	...	...	...	...	1	...	...	1	...	
,, traumatic	1	1	...	...	...	...	...	...	...	...	1	1	...	
,, septic	1	1	...	...	...	...	...	1	...	...	...	...	1	Died of septic myocarditis.
VENEREAL DISEASE:														
Syphilis, acquired	15	8	7	...	...	...	3	5	4	3	...	15	...	
Gonorrhœa	2	2	...	...	...	...	2	...	...	...	...	2	...	
Chancroids	2	2	...	...	...	...	1	...	1	...	...	2	...	
Venereal warts	1	1	...	...	...	...	1	...	...	...	...	1	...	
LOCAL DISEASE:														
Tumours:														
Epithelioma—														
Lip	6	4	2	...	...	...	...	...	...	2	4	6	...	
Tongue	10	10	...	...	...	...	...	...	3	3	4	6	4	2 died of septic pneumonia, and 1 of exhaustion after operation: 1 of pneumonia without operation. In this case the œsophagus was also affected.
Floor of mouth (recurrent)	1	1	...	...	...	...	...	...	...	1	...	1	...	
External auditory meatus	1	1	...	...	...	...	...	1	...	...	...	1	...	
Vulva	1	...	1	...	...	...	...	...	...	1	...	1	...	
Finger	1	1	...	...	...	...	...	...	...	...	1	1	...	
Foot	1	...	1	...	...	...	...	...	...	...	1	1	...	

Rodent ulcer	1	...	1	...	...	...	...	...	...	...	1	1	...	
Glandular Carcinoma:														
Breast (primary scirrhus)	16	...	16	...	...	...	2	...	5	3	6	14	2	1 died of exhaustion after operation, no post-mortem; 1 of empyema and pneumonia after operation.
Breast (recurrent scirrhus)	4	...	4	...	...	...	...	...	2	2	...	4	...	
Pharynx	1	1	...	...	...	...	...	...	...	1	...	1	...	
Parotid	1	1	...	...	...	...	...	1	...	...	...	1	...	
Cervical glands	1	...	1	...	...	...	...	...	1	...	...	1	...	
Stomach	2	...	2	...	...	...	...	1	1	...	...	1	1	
Cæcum	1	...	1	...	...	...	...	...	...	...	1	1	...	
Sigmoid flexure	2	...	2	...	...	...	...	...	...	2	...	...	2	
Abdomen	2	...	2	...	...	...	...	...	...	1	1	2	...	
Rectum	5	3	2	...	...	...	...	...	1	...	4	5	...	
Ovary	1	...	1	...	...	...	...	...	...	...	1	...	1	
Kidney	1	1	...	...	...	...	1	...	...	...	...	...	1	
Bladder	1	1	...	...	...	...	1	...	...	...	...	...	1	
Sarcoma:														
Skull	1	...	1	...	...	1	...	...	...	...	...	1	...	
Upper jaw	3	1	2	...	1	1	...	...	...	...	...	3	...	
Breast	1	1	...	...	...	1	...	...	...	...	...	1	...	
Axilla	1	...	1	1	...	...	...	...	...	...	...	1	...	
Post-peritoneal	1	1	1	...	...	1	...	...	...	...	1	...	2	
Humerus	1	1	...	...	...	...	1	...	...	...	...	1	...	
Femur	1	...	1	...	...	1	...	...	...	...	...	1	...	
Os calcis	1	1	...	...	...	...	1	...	...	...	...	1	...	
Lymphatic glands	1	1	...	...	...	...	1	...	...	...	...	1	...	
Skin	2	2	...	...	...	...	...	...	...	2	...	2	...	
Simple tumours:														
Lipoma	6	3	3	...	...	1	...	...	3	1	1	6	...	
Nævo-lipoma	1	...	1	1	...	...	...	...	...	...	...	1	...	
Fibroma	4	3	1	...	...	1	...	1	...	2	...	4	...	
Enchondroma	2	...	2	...	...	1	1	...	...	...	...	2	...	
Osteoma	3	2	1	...	1	1	1	...	...	...	...	3	...	

TABLE I.—*continued.*

DISEASES.	Total.	Sex.		Age.							Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
LOCAL DISEASES—*continued*—														
Simple tumours—(contd.)														
Fibromyoma (uterus)	3	...	3	...	...	...	3	...	...	1	...	3	...	
Nævus	8	5	3	6	...	...	...	1	...	...	1	8	...	
Papillomata, various	4	...	4	...	...	1	...	2	...	...	1	4	...	
,, laryngeal	1	1	...	...	...	...	1	...	...	...	...	1	...	
Fibro-adenoma (breast)	4	...	4	...	...	...	2	2	...	...	...	4	...	
Adenoid polypus (rectum)	6	4	2	...	1	2	...	...	1	2	...	6	...	
Mixed parotid tumour	1	1	...	...	...	...	...	1	...	...	...	1	...	
Adenoma seborræcca (skin)	1	1	...	...	...	...	...	1	...	...	...	1	...	
Cysts:														
Sebaceous	1	1	...	...	...	...	...	...	...	1	...	1	...	
Dermoid	2	1	1	1	...	1	...	...	...	...	...	2	...	
Of labium majus	1	...	1	...	...	...	1	...	...	...	...	1	...	
Ovarian	2	...	2	...	...	...	...	1	...	1	...	1	1	Had a fibroid of uterus, which was also removed; died of exhaustion 11 days later; no post-mortem.
Broad ligament	1	...	1	...	...	...	...	1	...	...	...	1	...	
DEFORMITIES AND MALFORMATIONS:														
Head and neck:														
Torticollis	1	1	...	...	...	1	...	...	...	...	...	1	...	
Hare-lip	1	1	...	1	...	...	...	...	...	...	...	1	...	
Cleft palate	4	2	2	2	2	...	...	...	...	...	...	4	...	

Trunk:														
Spina bifida	1	...	1	1	...	...	...	...	...	...	...	...	1	Died of exhaustion; was injected with Morton's fluid.
Lateral spinal curvature	2	2	...	...	...	2	...	...	...	...	...	2	...	
Deformed coccyx	1	...	1	1	...	...	...	...	...	...	...	1	...	
Upper extremity:														
Webbed fingers	1	...	1	1	...	...	...	...	...	...	...	1	...	
Lower extremity:														
Congenital dislocation of hip	6	...	6	...	4	2	...	...	...	...	...	6	...	
Genu valgum	1	...	1	...	1	...	...	...	...	...	...	1	...	
Pes cavus	6	4	2	...	...	4	2	...	...	...	...	6	...	
Flat foot	7	2	5	...	...	2	4	...	1	...	...	7	...	
Talipes equino-varus	2	...	2	1	1	...	...	...	...	...	...	2	...	
„ equinus	1	1	...	...	1	...	...	...	...	...	...	1	...	
„ calcaneus	1	...	1	...	1	...	...	...	...	...	...	1	...	
Hallux valgus	3	...	3	...	...	...	1	2	...	...	...	3	...	
Hammer toe	7	1	6	...	...	3	4	...	...	...	...	7	...	
DISEASES OF THE NERVOUS SYSTEM:														
Cerebral hæmorrhage	1	1	...	...	...	...	...	...	...	...	1	...	1	Died comatose.
„ softening	1	...	1	...	...	...	...	...	1	...	...	...	1	Died with coma, preceded by fits; was trephined.
Cerebellar abscess	1	1	...	...	...	1	...	...	...	...	...	...	1	Died of meningitis; cerebellar secondary to ear disease; was trephined.
Chronic hydrocephalus	1	...	1	...	...	...	...	1	...	...	...	...	1	Died comatose.
Epilepsy	3	3	...	...	1	...	...	1	...	1	...	3	...	
Sporadic cretinism	1	1	...	1	...	...	...	...	...	...	...	1	...	
Paraplegia	1	1	...	...	...	...	...	...	1	...	...	1	...	
Peripheral neuritis	1	1	...	...	...	...	...	1	...	...	...	1	...	
Neuralgia	1	...	1	...	...	...	...	1	...	...	...	1	...	
DISEASES OF THE EYE:														
Conjunctivitis	1	1	...	...	...	...	...	1	...	...	...	1	...	
Cataract	4	...	4	1	...	...	1	...	1	1	...	4	...	
Glaucoma	3	2	1	..	...	...	1	...	...	1	1	3	...	
Shrunken globe	1	...	1	...	...	...	...	...	1	...	...	1	...	

TABLE I.—*continued.*

DISEASES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	−5	−10	−20	−30	−40	−50	−60	+60	R.	D.	
DISEASES OF THE EAR:														
Acute meatitis	1	1	...	...	...	...	...	1	...	...	...	1	...	
Chronic suppurative otitis media	15	12	3	1	...	10	2	2	...	...	...	14	1	Died of pyæmia after septic thrombosis of lateral sinus.
Polypi	2	1	1	...	1	...	1	...	...	...	...	2	...	
Earache (? cause)	1	1	...	...	...	...	1	...	...	...	...	1	...	
DISEASES OF THE NOSE:														
Enlarged turbinals	1	1	...	...	...	...	1	...	...	...	...	1	...	
Deviated septum	2	1	1	...	...	1	1	...	...	...	...	2	...	
Polypi	1	...	1	...	...	...	...	1	...	...	...	1	...	
Empyema (Highmore's antrum)	3	1	2	...	...	...	1	1	...	1	...	3	...	
„ (frontal sinus)	2	...	2	...	...	...	...	2	...	...	...	2	...	
DISEASES OF THE PHARYNX AND LARYNX:														
Adenoids	22	12	10	3	11	8	...	...	...	...	...	22	...	
Enlarged tonsils	4	1	3	...	1	1	2	...	...	...	...	4	...	
Laryngitis, simple	1	1	...	...	...	...	...	...	...	...	1	1	...	
„ syphilitic	1	1	...	...	...	...	...	1	...	...	...	1	...	
„ tubercular	2	2	...	...	...	...	...	1	1	...	...	2	...	
DISEASES OF THE THYROID:														
Bronchocele	3	...	3	...	1	...	1	...	...	...	1	3	...	
DISEASES OF THE CHEST:														
Empyema	6	5	1	...	2	...	1	2	...	1	...	6	...	
Pneumonia	1	1	...	...	1	...	...	...	...	...	...	...	1	Admitted moribund.

DISEASES OF THE BREAST:														
Chronic mastitis	3	...	3	...	...	...	2	1	...	...	...	3	...	
Cystic disease of	2	...	2	...	...	...	1	...	1	...	...	2	...	
DISEASES OF THE VASCULAR SYSTEM:														
Morbus cordis	1	...	1	...	...	...	1	...	...	...	...	...	1	Syncope shortly after tapping abdomen.
Obliterative anteritis	1	1	...	...	...	...	1	...	...	...	...	1	...	
Aneurysm, popliteal	2	2	...	...	...	...	1	...	1	...	...	2	...	
Phlebitis	4	1	3	...	...	...	1	2	1	...	...	4	...	
Varicose veins	47	23	24	...	...	3	20	8	8	5	3	47	...	
Varicocele	16	16	...	...	...	7	9	...	...	...	...	16	...	
DISEASES OF LYMPHATIC SYSTEM:														
Inflamed glands	3	2	1	...	1	...	1	1	...	...	...	3	...	
Enlarged „	7	5	2	2	...	3	1	1	...	...	...	7	...	
Tuberculous „	37	17	20	2	6	15	14	...	...	...	...	37	...	
Lymphadenoma	2	...	2	...	...	...	...	1	1	...	...	2	...	
Lymphangitis	4	3	1	...	...	...	1	3	...	...	...	4	...	
DISEASES OF DIGESTIVE SYSTEM:														
Mouth:														
Stomatitis	1	1	...	1	...	...	...	...	...	...	...	1	...	
Acute glossitis	1	1	...	...	...	...	1	...	...	...	...	1	...	
Chronic inflammation of sub-lingual gland	1	...	1	...	...	...	...	...	1	...	..	1	...	
Œsophagus:														
Stricture of	7	7	...	...	...	2	...	...	...	3	2	6	1	Died of suppurative nephritis; had a senile large prostate. No operation.
Stomach:														
Gastric ulcer	2	...	2	...	...	...	...	2	...	...	...	2	...	
„ „ perforated	4	2	2	...	...	...	3	...	1	...	...	1	3	2 died of peritonitis, 1 of exhaustion.
Pyloric stenosis	1	1	1	...	...	...	...	1	...	1	...	2	...	

TABLE I.—*continued.*

DISEASES.	Total.	Sex.		Age.							Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
DISEASES OF DIGESTIVE SYSTEM —*contd.*														
Intestines:														
Obstruction, acute	2	...	2	...	...	...	...	1	...	...	1	...	2	1 due to impacted gall-stone, died of exhaustion several days after its removal; 1 to hernia into ileo-cæcal fossa, gut was gangrenous, and patient died of peritonitis.
,, chronic	1	1	...	...	...	...	...	1	...	...	...	...	1	Died of shock after laparotomy (? cause of obstruction), no post-mortem.
Perforating ulcer (duodenum)	1	1	...	...	...	...	...	...	...	1	...	...	1	Peritonitis.
Ulcerative colitis	1	...	1	...	...	...	...	...	1	...	...	...	1	Exhaustion.
Appendicitis	16	10	6	...	3	7	3	...	1	1	1	12	4	3 died of perforative peritonitis, 1 of septic infection after abscess.
Hernia:														
Reducible, inguinal	49	43	6	12	2	11	13	5	4	2	...	47	2	Both of septic infection after operation for radical cure.
,, femoral	2	...	2	...	...	...	1	...	1	...	...	2	...	
,, umbilical	1	...	1	...	...	...	...	...	1	...	...	1	...	
Irreducible, inguinal	3	3	...	...	...	...	...	2	1	...	...	3	...	
,, femoral	3	...	3	...	...	...	...	1	2	...	...	3	...	
,, umbilical	5	...	5	...	...	...	...	2	2	1	...	5	...	
Strangulated, inguinal	4	3	1	...	..	...	1	1	...	2	...	3	1	Gut gangrenous.
,, femoral	5	1	4	...	...	...	...	1	3	...	1	3	2	1 peritonitis, gut purple; 1 gut gangrenous (resection).
,, umbilical	1	...	1	1	...	...	...	...	...	...	...	...	1	An infant gut sloughed.
Liver:														
Hydatids	1	1	...	...	...	...	...	1	...	...	...	1	...	
Gall-stones	2	1	1	...	...	...	...	1	1	...	...	2	...	

Rectum and Anus:														
Foreign body in	1	...	1	1	...	...	...	...	...	...	...	1	...	
Prolapse	2	1	1	...	...	1	...	...	...	...	1	2	...	
Piles	15	9	6	...	...	...	1	3	7	2	2	15	...	
Fissure	2	2	...	...	...	1	1	...	...	...	...	2	...	
Fistula	10	8	2	...	...	1	3	2	2	1	1	10	...	
Stricture (fibrous)	3	2	1	...	...	...	2	...	...	...	1	3	...	
DISEASES OF THE GENITO-URINARY SYSTEM:														
Kidney:														
Renal colic	4	1	3	...	...	...	3	...	1	...	...	4	...	
Tubercle of	1	1	...	...	...	...	...	1	...	...	...	1	...	
Movable	6	...	6	...	...	...	...	2	3	1	...	6	...	
Stone in	3	...	3	...	...	...	1	1	1	...	...	3	...	
Ureter:														
Stone in	1	...	1	...	...	...	...	1	...	...	...	1	...	
Bladder:														
Irritable	4	4	...	...	2	...	1	...	1	...	...	4	...	
Cystitis	3	3	...	...	...	...	...	2	...	1	...	2	1	Surgical kidneys.
Stone in	2	2	...	...	...	...	...	...	1	1	...	1	1	Bilateral pyonephrosis.
Urethra:														
Foreign body in	1	1	...	...	...	...	...	...	1	...	...	1	...	
Stricture of	21	21	...	...	...	...	4	3	5	1	8	21	...	
Testicle and epididymis:														
Undescended	2	2	...	...	1	...	...	1	...	...	...	2	...	1 torsion of cord.
Vaginal hydrocele	8	8	...	...	...	6	1	...	...	...	1	7	1	Exhaustion after radical cure.
Encysted „ (cord)	2	2	...	2	...	...	...	...	...	...	...	2	...	
„ „ (epididymitis)	1	1	...	...	...	...	...	...	...	1	...	1	...	
Orchitis	2	2	...	...	...	1	1	...	...	...	...	2	...	
Epididymitis	2	2	...	...	...	1	1	...	...	...	...	2	...	
Tubercle of	10	10	...	...	...	...	4	...	4	2	...	10	...	
Hernia testis	2	2	...	...	...	...	2	...	...	...	...	2	...	

TABLE I.—*continued.*

DISEASES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
DISEASES OF THE GENITO-URINARY SYSTEM—*contd.*														
Prostate:														
Senile enlargement	5	5	...	...	...	...	...	...	...	2	3	3	2	1 of pelvic cellulitis after perineal incision, 1 of asthenia; no post-mortem.
Penis:														
Phimosis	10	10	...	4	2	2	2	...	...	...	...	10	...	
Paraphimosis	2	2	...	...	...	1	1	...	...	...	...	2	...	
Female organs:														
Hypertrophied labia	1	...	1	...	...	1	...	...	...	...	...	1	...	
„ hymen	1	...	1	1	...	...	...	...	...	...	...	1	...	
Ruptured perinæum	2	...	2	...	...	...	...	2	...	...	...	2	...	
Pyuria	1	1	...	...	...	...	...	1	...	...	...	1	...	
Hæmaturia	1	1	...	...	...	...	...	...	1	...	...	1	...	
Retention of urine	4	4	...	...	...	1	...	...	2	...	1	4	...	
DISEASES OF THE ORGANS OF LOCOMOTION:														
Bone, Diseases of:														
Ostitis and periostitis:														
Jaw	2	...	2	...	...	1	1	...	...	...	...	2	...	
Humerus	3	1	2	...	...	2	...	...	1	...	...	3	...	
Ilium	1	1	...	...	...	1	...	...	...	...	...	1	...	
Tibia	4	1	3	...	2	...	2	...	...	...	...	4	...	

Caries and necrosis:														
Frontal bone	1	1	...	...	...	...	1	...	...	...	...	1	...	
Jaw	4	2	2	2	...	...	...	1	...	1	...	4	...	
Mastoid	4	2	2	1	1	1	...	...	...	1	...	3	1	Suppurative meningitis.
Spine	21	16	5	4	6	8	...	1	1	...	1	19	2	1 had been treated by forcible straightening, died of miliary tubercle; 1 died of tubercular meningitis.
Ribs	3	3	...	...	...	...	...	3	...	...	...	3	...	
Upper extremity, bones of	3	...	3	1	1	...	...	1	...	...	...	3	...	
Lower „ „	12	9	3	...	...	3	5	1	1	2	...	12	...	
Acute epiphysitis	1	1	...	1	...	...	...	...	...	...	...	1	...	
„ infective osteomyelitis	1	...	1	...	...	...	...	...	1	...	...	1	...	
Tubercular epiphysitis	2	...	2	...	...	2	...	...	...	...	...	2	...	
Hyperostosis of skull	1	...	1	...	...	...	...	...	...	1	...	1	...	
DISEASES OF JOINTS:—														
Synovitis (simple):														
Knee	9	5	4	...	...	2	2	2	2	1	...	9	...	
Elbow	1	1	...	...	...	...	...	1	...	...	...	1	...	
Gonorrhœal	4	4	...	...	...	...	4	...	...	...	...	4	...	
Acute arthritis:														
Shoulder	2	2	...	...	...	...	1	1	...	...	...	2	...	
Elbow	2	...	2	1	...	1	...	...	...	...	...	2	...	
Wrist	1	...	1	1	...	...	...	...	...	...	...	...	1	Pyæmia (an infant).
Finger	1	...	1	...	...	...	...	...	...	1	...	1	...	
Knee	2	1	1	...	...	...	2	...	...	...	...	2	...	
Tuberculous disease:														
Shoulder	3	3	...	...	1	...	1	...	...	...	1	3	...	
Elbow	6	6	...	...	2	1	1	...	...	2	...	6	...	
Wrist	1	1	...	...	...	...	1	...	...	...	...	1	...	
Sacro-iliac	2	2	...	...	1	...	1	...	...	...	...	2	...	
Hip	28	12	16	3	5	14	4	1	1	...	...	27	1	Shock after excision.

TABLE I.—*continued.*

DISEASES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
DISEASES OF JOINTS—*contd.*														
Tuberculous disease—contd.														
Knee	20	9	11	3	6	6	5	...	...	...	...	19	1	Shock after amputation ; morbus cordis.
Ankle	1	1	...	...	1	...	...	...	...	...	...	1	...	
Middle tarsal	3	2	1	1	...	2	...	...	...	...	...	3	...	
Loose bodies in joints :														
Knee	2	1	1	...	...	...	1	1	...	...	...	2	...	
Ankylosed joints :														
Elbow	1	...	1	...	1	...	...	...	...	...	...	1	...	
Finger	1	1	...	...	...	...	...	...	1	...	...	1	...	
Knee	5	4	1	...	1	3	...	...	...	1	...	5	...	
Acute rheumatism	2	2	...	...	...	2	...	...	...	...	...	2	...	
Osteo-arthritis	4	4	...	...	...	...	...	...	2	2	...	2	...	
Hysterical joint	1	...	1	...	...	...	1	...	...	...	...	1	...	
DISEASES OF TENDONS AND BURSÆ.														
Teno-synovitis, simple	3	2	1	...	...	...	1	...	2	...	...	3	...	
" tubercular	1	...	1	...	...	1	...	...	...	...	...	1	...	
Ganglion	2	...	2	...	...	...	2	...	...	...	...	2	...	
Enlarged bursæ	8	...	8	...	...	3	4	...	...	1	...	8	...	
Suppurating bursæ	10	5	5	...	...	...	3	2	5	...	...	10	...	

ABSCESS, CELLULITIS, ETC.:														
Abscesses:														
Of head and neck	67	44	23	12	16	20	9	2	2	2	4	66	1	Died of meningitis.
Mastoid	3	2	1	1	1	1	...	...	...	...	...	3	...	
Of upper extremity	17	11	6	2	2	2	2	4	1	4	...	17	...	
Of lower extremity	13	9	4	1	4	1	6	...	1	...	...	12	1	Died of phthisis.
Mammary	5	...	5	...	...	1	2	2	...	...	...	5	...	
Of chest wall	1	1	...	1	...	...	...	...	...	...	...	1	...	
Pericæcal	2	1	1	...	...	1	...	...	...	1	...	2	...	
Psoas	3	2	1	...	...	1	2	...	...	...	...	3	...	
Lumbar	2	2	...	1	...	1	...	..	...	...	...	2	...	
Parametric	2	...	2	...	...	...	1	...	1	...	...	1	1	Died of exhaustion.
Ischio-rectal	8	8	...	...	...	1	3	...	2	2	...	8	...	
Of perinæum, labium, and groin	5	1	4	1	1	...	2	1	...	...	...	5	...	
Whitlow	13	3	10	...	...	4	1	3	2	3	...	13	...	
Cellulitis	24	19	5	1	1	6	5	4	4	3	...	22	2	1 died of exhaustion, 1 of hæmorrhage (buttock), no post-mortem.
Carbuncle	3	3	...	...	...	...	...	...	2	1	...	3	...	
DISEASES OF THE SKIN, &C.:														
Lupus	14	8	6	...	4	5	2	...	2	...	1	14	...	
Corns	1	...	1	...	...	...	1	...	...	...	...	1	...	
Ingrowing toe-nail	2	2	...	...	...	...	2	...	...	...	...	2	...	
Nævus verucosus lateralis	1	1	...	...	...	1	...	...	...	...	...	1	...	
Eczema	7	3	4	2	1	...	...	2	1	...	1	7	...	
Psoriasis	1	1	...	...	...	...	...	1	...	...	...	1	...	
Elephantiasis	1	1	...	...	...	1	...	...	...	...	...	1	...	
Ulcers, simple	13	8	5	...	...	...	2	4	4	3	...	13	...	
„ perforating	2	2	...	...	...	...	...	...	1	1	...	2	...	
Sinuses	9	2	7	1	...	1	5	1	...	1	...	9	...	

TABLE I.—*continued.*

DISEASES.	Total.	Sex.		Age.							Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
UNCLASSIFIED:														
Alcoholism	1	1	...	...	...	...	...	...	...	1	...	1	...	
Pregnancy	1	...	1	...	...	...	1	...	...	...	...	1	...	
Abdominal pain	1	...	1	...	...	...	...	...	1	...	...	1	...	
Carious teeth	1	...	1	1	...	...	...	...	...	...	...	1	...	
Nil	4	3	1	1	...	1	...	1	1	...	...	4	...	
Attempted suicide (drowning)	1	1	...	...	...	...	...	1	...	...	...	1	...	
Diabetes	1	1	...	...	...	...	...	...	1	...	...	1	...	
Vomiting	2	2	...	2	...	...	...	...	...	...	...	2	...	
Chronic œdema	2	1	1	...	...	...	1	...	1	...	...	2	...	
Colic	1	...	1	...	...	...	...	1	...	...	...	1	...	
Constipation	2	1	1	...	...	...	1	1	...	...	...	2	...	
Collapse (? cause)	1	1	...	...	...	...	...	1	...	...	...	1	...	
Debility	2	...	2	...	...	...	...	...	1	...	1	2	...	

TABLE II.

GENERAL INJURIES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
GENERAL INJURIES:														
Burns	6	2	4	2	1	1	1	...	...	...	1	3	3	All died of shock.
Scalds	2	1	1	2	...	...	...	...	...	...	...	1	1	Died of shock.
Sunstroke	1	1	...	...	...	...	1	...	...	...	...	1	...	
LOCAL INJURIES:														
Injuries of head, neck, and face:														
Scalp and other wounds	31	23	8	2	4	1	4	8	7	2	3	29	2	1 died of cerebral hæmorrhage, 1 of exhaustion.
Cut throat	3	3	...	...	...	...	...	...	2	...	1	2	1	Died of malignant disease of liver.
Wounds of globe of eye	4	2	2	1	...	...	...	1	1	1	...	4	...	
Contusions	2	1	1	...	...	1	1	...	...	...	...	2	...	
Contusion of globe of eye	2	...	2	...	...	...	1	...	...	1	...	2	...	
Hæmatoma septum nasi	1	1	...	...	...	1	...	...	...	...	...	1	...	
Concussion	10	8	2	2	3	1	3	...	...	2	...	10	...	
Cerebral laceration	3	3	...	...	...	...	1	1	...	...	1	2	1	Ruptured liver and spleen and coma.
Fractured skull	8	8	...	...	1	1	3	2	1	...	...	6	2	Died of cerebral compression.
„ nasal bones	4	4	...	...	...	...	1	2	1	...	...	4	...	
„ upper jaw	1	1	...	...	...	...	...	1	...	...	...	1	...	
„ lower jaw	3	2	1	...	...	...	...	2	1	...	...	3	...	
Injuries of the chest:														
Wounds (gunshot)	2	2	...	2	...	...	...	...	...	...	...	2	...	
Fractured ribs	9	8	1	...	1	...	2	3	1	...	2	8	1	Died of morbus cordis.
Ruptured lung	1	1	...	...	1	...	...	...	...	...	...	...	1	„ hæmothorax.
Contusions	3	2	1	1	...	1	1	...	...	...	...	3	...	

TABLE II.—*continued.*

GENERAL INJURIES.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
LOCAL INJURIES—*contd.*														
Injuries of the spine:														
Contusion	9	8	1	...	...	...	5	1	3	...	...	9	...	
Fracture dislocation	1	1	...	...	...	...	...	1	...	...	...	...	1	Ruptured lung, &c.
Concussion	2	2	...	...	...	...	...	1	...	1	...	2	...	
Injuries of the abdomen:														
Run over	2	2	...	...	1	...	...	...	...	...	1	1	1	Intraperitoneal bleeding.
Blow on	2	1	1	...	...	...	2	...	...	...	...	2	..	
Injuries of the upper extremity:														
Fractures:														
Compound:														
Ulna	1	1	...	...	...	...	1	...	...	...	...	1	...	
Ulna and radius	1	1	...	...	...	1	...	...	...	...	...	1	...	
Metacarpal	1	1	...	...	..	...	...	1	...	...	...	1	...	
Simple:														
Clavicle	2	2	...	...	...	...	...	...	1	...	1	2	...	
Scapula	2	1	1	...	...	...	...	2	...	...	...	2	...	
Humerus	12	8	4	...	...	1	...	2	5	2	2	12	...	
Colles'	4	1	3	...	...	1	...	...	2	...	1	4	...	
Metacarpal	2	2	...	...	...	1	1	...	...	...	...	2	...	
Dislocations:														
Shoulder	1	...	1	...	...	...	...	...	...	1	...	1	...	

Elbow	1	...	1	...	...	...	...	...	...	1	...	1	...	
Radius	1	1	...	...	...	...	...	1	...	...	...	1	...	
Wounds	27	21	6	3	3	3	9	4	1	1	2	27	...	
Foreign body in	7	...	7	...	...	1	1	4	1	...	...	7	...	
Sprains	1	1	...	...	...	...	...	...	1	...	...	1	...	
Contusions	5	5	...	...	...	2	2	...	...	1	...	1	...	
INJURIES OF LOWER EXTREMITY:														
Fractures:														
Compound:														
Femur	3	2	1	...	...	...	1	...	...	2	...	3	...	
Tibia and fibula	6	4	2	...	1	...	1	1	1	...	2	4	2	1 of exhaustion, 1 of shock.
Astragalus	1	1	...	...	...	...	1	...	...	...	...	1	...	
Simple:														
Femur	15	9	6	5	2	3	...	...	...	...	5	15	...	
Tibia and fibula	6	4	2	...	...	1	...	1	4	...	...	6	...	
Pott's	4	2	2	...	...	...	1	2	1	...	...	4	...	
Tibia	7	5	2	...	...	...	2	1	1	2	1	7	...	
Fibula	3	2	1	...	...	...	2	1	...	...	...	3	...	
Patella	4	2	2	...	...	...	...	...	...	1	3	4	...	
Metatarsal	1	1	...	...	...	...	...	1	...	...	...	1	...	
Separation of epiphysis:														
Femur	1	1	...	...	...	1	...	...	...	...	...	1	...	
Phalanx	1	1	...	...	...	...	...	1	...	...	...	1	...	
Sprains	6	4	2	...	...	2	...	...	3	1	...	6	...	
Contusions	13	8	5	...	...	3	2	4	1	1	2	13	...	
Wounds	7	7	...	...	1	2	1	...	1	...	2	7	...	
Foreign body in	1	1	...	...	...	...	...	1	...	...	...	1	...	

TABLE III.

OPERATIONS.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
REMOVAL OF TUMOURS :														
For carcinoma :														
Breast (only)	1	...	1	...	...	...	...	...	...	1	...	1	...	
Breast and axillary glands	15	...	15	...	...	...	2	...	4	3	6	13	2	1 of exhaustion (no post-mortem), 1 of septic pneumonia and pleurisy. In all these amputation of breast and removal of axillary glands was performed ; in 2, pectorals were divided and part removed.
Recurrent of breast	1	...	1	...	...	...	...	...	1	...	...	1	...	
Parotid gland	1	1	...	...	...	...	...	1	...	...	...	1	...	
Cervical glands	1	1	...	...	...	...	...	...	1	...	...	1	...	This was a case of primary cancer, and recurred very rapidly.
For epithelioma :														
Finger	1	1	...	...	...	...	...	...	...	...	1	1	...	
Tongue and glands	9	9	...	...	...	...	...	...	3	2	4	5	4	2 of septic pneumonia, 1 of bronchitis, 1 of broncho-pneumonia.
Lip	6	4	2	...	...	...	...	...	...	3	3	6	...	
External auditory meatus	1	1	...	...	...	...	...	...	1	...	...	1	...	
Rodent ulcer	1	...	1	...	...	...	...	...	...	...	1	1	...	
For sarcoma :														
Jaw	3	...	3	...	1	1	1	...	...	...	...	3	...	
Breast	1	1	...	...	...	...	1	...	...	...	...	1	...	
Axillary glands	1	1	...	1	...	...	...	...	...	...	...	1	...	
Skin	2	2	...	...	...	...	...	...	...	1	1	2	...	

For innocent tumours :													
Lipoma	6	3	3	...	...	..	1	...	4	...	1	6	...	
Fibroma	4	3	1	...	...	1	...	...	2	1	...	3	1	Tuberculous meningitis.
Enchondroma	2	...	2	...	...	1	1	...	...	...	...	2	...	
Osteoma	2	1	1	...	1	1	...	...	...	...	...	2	...	
Fibroid (uterus)	1	...	1	...	...	...	...	...	...	...	1	...	1	? peritonitis, no post-mortem
Nævus	8	5	3	5	...	1	...	1	...	...	1	8	...	
Papilloma	3	...	3	...	...	...	...	2	...	...	1	3	...	
Mixed parotid	1	1	...	...	...	...	...	1	...	...	...	1	...	
Fibro-adenoma (breast)	5	5	...	...	...	...	3	2	...	...	...	5	...	
Cysts :														
Sebaceous	1	1	...	...	...	...	...	...	...	1	...	1	...	
Dermoid	2	1	1	1	...	1	...	...	...	...	...	2	...	
Labium majus	1	...	1	...	...	...	1	...	...	...	...	1	...	
Breast	1	...	1	...	...	...	...	1	...	...	...	1	...	
Ovarian	1	...	1	...	...	...	...	1	...	...	...	1	...	
Broad ligament	1	...	1	...	...	...	...	1	...	...	...	1	...	
OPERATIONS ON NERVOUS SYSTEM :														
Injecting spina bifida	1	...	1	1	...	...	...	...	...	...	...	...	1	Exhaustion six days after.
Freeing nerve from adhesions	1	...	1	...	...	1	...	...	...	...	...	1	...	
OPERATIONS ON THE EYE :														
Excising globe	2	...	2	...	...	...	...	...	1	1	...	2	...	
Evisceration	1	...	1	1	...	...	...	...	...	...	...	1	...	A Mules' globe was inserted.
Iridectomy	3	2	1	...	...	...	1	...	...	1	1	3	...	
Cataract	5	...	5	2	...	...	1	...	1	1	...	5	...	
OPERATIONS ON THE EAR :														
Removing polypi	2	1	1	...	1	...	1	...	...	...	...	2	...	

TABLE III.—*continued.*

OPERATIONS.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
OPERATIONS ON THE NOSE:														
Removing polypi	1	...	1	...	...	...	...	1	...	...	...	1	...	
Turbinectomy	2	1	1	...	...	2	...	...	...	...	...	2	...	
Removing part of septum	2	1	1	...	...	1	1	...	...	...	...	2	...	
Opening antrum	3	1	2	...	...	...	1	1	...	1	...	3	...	
„ frontal sinus	2	...	2	...	...	...	...	2	...	...	...	2	...	
OPERATIONS ON THE MOUTH, PHARYNX, AND LARYNX:														
Adenoids	25	15	10	3	12	9	1	...	...	...	...	25	...	
Tonsillotomy	2	...	2	...	...	1	1	...	...	...	...	2	...	
Laryngotomy	1	1	...	...	...	...	1	...	...	...	...	1	...	
Tracheotomy	3	3	...	...	...	...	...	1	2	...	...	3	...	
Excising sublingual gland	1	1	...	...	...	...	...	...	1	...	...	1	...	
OPERATIONS ON THE THYROID:														
Division of the isthmus	2	...	2	...	...	...	1	...	...	...	1	2	...	
OPERATIONS ON THE VESSELS:														
Tying jugular vein	2	2	...	...	1	...	...	1	...	...	...	1	1	Pyæmia (a septic case) and cerebellar abscess.
Varicose veins	32	17	15	...	...	3	17	3	7	2	...	32	...	
Varicocele	15	15	...	...	...	6	8	...	1	...	...	15	...	
Tying superficial femoral	2	2	...	...	...	...	1	...	1	...	...	2	...	
„ brachial	1	1	...	...	...	...	...	1	...	...	...	1	...	

OPERATIONS ON THE CHEST:														
Empyema	4	4	...	...	2	...	1	1	...	...	...	4	...	
OPERATIONS ON THE ABDOMEN:														
Laparotomy:														
Exploratory	11	2	9	...	...	...	1	4	2	2	2	5	6	2 post-peritoneal sarcoma, 1 carcinoma of sigmoid, 1 internal hernia and gangrene of gut, 1 carcinoma pylorus, 1 chronic intestinal obstruction, died of shock, no post-mortem.
Peritonitis	6	2	4	...	...	...	4	...	...	...	...	1	5	3 perforative appendicitis, 2 perforation of gastric ulcer (these died), 1 perforation of gastric ulcer recovered.
Drainage	1	...	1	...	...	...	1	...	...	...	...	...	1	Died weeks later, intra-abdominal new growth.
Stomach:														
Hæmatemesis	1	...	1	...	...	...	...	1	...	...	...	1	...	
Gastrostomy	2	2	...	...	...	...	...	...	...	1	1	2	...	
Pyloroplasty	1	...	1	...	...	...	...	1	...	...	...	1	...	
Gastro-jejunostomy	1	1	...	...	...	...	...	...	...	1	...	1	...	
Intestines:														
Enterotomy	1	...	1	...	...	...	...	...	...	...	1	...	1	For obstruction by gall-stone, died of exhaustion.
Enterectomy	1	...	1	...	...	...	...	...	...	1	...	...	1	For malignant sigmoid, died in 4 days.
Colotomy (inguinal)	1	...	1	...	...	...	...	...	...	...	1	1	...	
Excision of appendix	7	6	1	...	2	3	1	...	1	...	...	6	1	There was a septic abscess opened at same time.
Liver:														
Hydatids	1	1	...	...	...	...	...	1	...	...	...	1	...	
Hernia:														
Heruiotomy, inguinal	4	2	2	...	...	...	1	...	2	1	...	3	1	Gangrenous gut.
„ femoral	5	1	4	...	...	...	...	2	2	...	1	3	2	1 „ „ gut resected; 1 peritonitis, gut very dark.
„ umbilical	1	...	1	1	...	...	...	...	...	...	...	...	1	The gut had sloughed and perforated.

TABLE III.—*continued.*

OPERATIONS.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	—5	—10	—20	—30	—40	—50	—60	+60	R.	D.	
OPERATIONS ON THE ABDOMEN —*cont.*														
Radical cure, inguinal	39	37	2	6	2	9	12	1	6	3	...	37	2	Both died of septic infection.
" " femoral	4	1	3	...	...	...	1	...	3	...	...	4	...	
" " umbilical	2	1	1	...	...	...	...	1	1	...	...	2	...	
OPERATIONS ON RECTUM AND ANUS:														
Excision	1	1	...	...	...	...	...	...	...	...	1	1	...	
Removal of polypi	5	3	2	...	...	2	...	...	1	1	1	5	...	
Piles	12	7	5	...	...	...	1	2	6	1	2	12	...	
Prolapse	1	1	...	...	...	...	1	...	...	...	...	1	...	
Fissure	3	3	...	...	1	1	1	...	...	...	...	3	...	
Fistula	10	9	1	...	...	1	2	3	2	1	1	10	...	
OPERATIONS ON THE URO-GENITAL ORGANS:														
Incising prepuce	1	1	...	...	...	...	1	...	...	...	...	1	...	
Circumcision	13	13	...	3	3	3	3	1	...	...	...	13	...	
Internal urethrotomy	2	2	...	...	...	...	...	...	1	1	...	2	...	
External "	3	3	...	...	...	...	...	...	...	1	2	2	1	Pelvic cellulitis and surgical kidney.
Suprapubic lithotomy	1	1	...	...	...	...	...	...	...	1	...	1	...	
Perineal "	1	1	...	...	...	...	...	...	...	1	...	...	1	Bilateral pyonephrosis.
Prostatectomy	2	2	...	...	...	...	...	...	...	1	1	1	1	Uræmia, no post-mortem.
Removal of stone from ureter	1	...	1	...	...	...	...	1	...	...	...	1	...	
Exploration of kidney	4	2	2	...	...	...	2	1	1	...	...	3	1	Died of exhaustion weeks after operation, kidney malignant.

Nephrorraphy	5	1	4	...	...	...	...	2	2	1	...	5	...	
Nephrolithotomy	3	...	3	...	...	...	1	1	1	...	...	3	...	
Castration	11	11	...	...	1	2	3	1	2	2	...	11	...	
Hydrocele	6	6	1	...	3	1	...	...	...	...	1	5	1	Died of exhaustion.
Tubercular testis	4	4	...	...	...	...	1	...	2	1	...	4	...	
Hysterectomy (abdominal)	2	...	2	...	...	...	2	...	...	...	...	2	...	
Perineorraphy	2	...	2	...	...	...	...	2	...	...	...	2	...	
Hypertrophied pudenda	2	...	2	1	...	1	...	...	...	...	...	2	...	
OPERATIONS ON THE ORGANS OF LOCOMOTION:														
Bones:														
Trephining skull	6	5	1	...	1	1	3	...	1	...	...	3	3	1 cerebral laceration, 1 extra-dural bleeding, 1 status epilepticus.
Opening mastoid cells	14	10	4	1	1	10	...	1	...	1	...	12	2	1 meningitis, 1 pyæmia.
Transverse osteotomy (femur)	3	...	3	...	2	1	...	...	...	...	...	3	...	
Linear osteotomy	1	1	...	...	...	...	1	...	...	...	...	1	...	
Scraping carious bone	16	7	9	2	2	4	2	5	...	1	...	16	...	
Sequestrotomy	12	7	5	2	...	3	1	1	3	2	...	12	...	
Forcible straightening of spine	7	7	...	4	1	2	...	...	...	...	...	7	...	
Wiring jaw	1	1	...	...	...	...	...	...	1	...	...	1	...	
Wiring patella	3	1	2	...	...	...	...	...	...	1	2	3	...	
Excision of head of radius	1	1	...	...	...	...	...	1	...	...	...	1	...	
" " metatarsal	2	...	2	...	...	1	...	1	...	...	...	2	...	
" astragalus	1	1	...	...	...	...	1	...	...	...	...	1	...	
OPERATIONS ON JOINTS:														
Excision and arthrectomy—														
Shoulder	2	2	...	...	1	...	...	...	...	...	1	2	...	
Elbow	3	3	...	...	1	1	...	...	...	1	...	3	...	
Wrist	1	1	...	...	...	...	1	...	...	...	...	1	..	
Sacro-iliac	1	1	...	...	...	...	1	...	...	...	...	1	...	
Hip	6	4	2	1	3	1	1	...	...	...	...	5	1	Died of shock shortly after operation.
Knee	8	4	4	...	3	2	3	...	...	...	...	8	...	
Interphalangeal (toe)	2	...	2	...	...	1	1	...	...	...	...	2	...	

TABLE III.—*continued.*

OPERATIONS.	Total.	Sex.		Age.								Result.		Remarks.
		M.	F.	–5	–10	–20	–30	–40	–50	–60	+60	R.	D.	
OPERATIONS ON JOINTS—*contd.*														
Incising joints—														
Shoulder	3	3	...	...	...	...	2	1	...	...	...	3	...	
Elbow	3	2	1	1	...	1	1	...	...	...	...	3	...	
Wrist	1	...	1	1	...	...	...	...	...	...	...	...	1	Died of infantile pyæmia.
Knee	3	2	1	...	...	...	2	1	...	...	...	3	...	
Excising loose body, knee	1	1	...	...	...	...	...	1	...	...	...	1	...	
Aspiration of knee	1	1	...	...	...	...	1	...	...	...	...	1	...	
Reducing dislocated shoulder	1	1	...	...	...	1	...	...	...	...	...	1	...	
Wrenching various joints	12	5	7	...	3	1	4	1	2	1	1	12	...	
AMPUTATIONS:														
Breast	3	1	2	...	...	...	1	1	1	...	...	3	...	2 for chronic interstitial mastitis, 1 for cystic disease.
Shoulder	1	1	...	...	...	...	...	1	...	...	...	1	...	For sarcoma of head of humerus.
Finger	5	5	...	...	1	...	2	2	...	...	...	5	...	
Hip	1	...	1	...	...	1	...	...	...	...	...	1	...	For old tubercle of hip.
Thigh	6	6	...	1	...	...	3	1	...	1	...	4	2	3 for tubercle of knee; 1 died of shock and morbus cordis; 1 for septic gangrene died; 1 for gangrene from endarteritis; 1 for fractured femur and wound of leg.
Stephen Smith	1	...	1	...	...	...	...	1	...	...	...	1	...	For chronic ulcers.
Leg	3	3	...	...	1	...	1	1	...	...	...	3	...	1 for tuberculous ankle, 1 for compound fracture, 1 for sarcoma of os calcis.
Syme	1	1	...	...	...	1	...	...	...	...	...	1	...	
Chopart	1	1	...	...	...	1	...	...	...	...	...	1	...	
Toe	5	2	3	...	...	1	1	...	1	1	1	5	...	

OPERATIONS ON LYMPHATIC GLANDS:														
Excising	35	15	20	1	4	15	10	3	2	...	...	35	...	
Scraping	8	4	4	1	2	3	2	...	...	...	...	8	...	
OPERATIONS ON TENDONS AND BURSÆ:—														
Tenotomy	22	8	14	1	4	11	4	1	1	...	...	22	...	
Tendon suture	2	2	...	...	1	...	1	...	...	...	...	2	...	
Tubercular tendon sheaths	1	1	...	...	...	1	...	...	...	...	...	1	...	
Excising bursæ	10	2	8	...	...	3	4	...	1	2	...	10	...	
„ ganglia	2	...	2	...	...	...	2	...	...	...	...	2	...	
OPERATIONS ON THE SKIN, CONNECTIVE TISSUE, &C.:														
Opening abscesses	136	65	71	18	26	29	27	9	13	10	4	133	3	1 of phthisis, 1 of exhaustion, 1 of meningitis.
Incising cellulitis	24	18	6	1	2	5	8	4	1	2	1	22	2	1 of exhaustion, 1 of hæmorrhage.
„ carbuncle	3	3	...	...	...	...	...	...	2	1	...	3	...	
Suturing wounds, &c.	33	21	12	3	3	6	5	5	4	3	4	31	2	1 cut throat and malignant disease, 1 compound fracture of leg, æt. 87.
Grafting „	5	1	4	1	...	...	1	...	1	1	1	4	1	1 scalp wound, died of exhaustion.
Removal of foreign bodies	10	3	7	...	...	1	3	5	1	...	...	10	...	
Scraping and excising sinuses, ulcers, &c.	17	8	9	1	1	4	3	1	4	2	1	16	...	
Lupus	15	6	9	2	4	5	2	...	2	...	...	15	...	
Ingrowing toenail	2	2	...	...	...	...	2	...	...	...	...	2	...	
Application of cautery	4	3	1	...	...	...	1	...	2	1	...	4	...	
Plastic operations:														
Hare-lip	2	1	1	2	...	...	...	...	...	...	...	2	...	
Cleft and perforated palate	3	2	1	1	1	...	1	...	...	...	...	3	...	
Webbed fingers	1	1	...	1	...	...	...	...	...	...	...	1	...	
Skin wounds	2	1	1	...	...	...	1	1	...	...	...	2	...	
Adhesion of palate	1	...	1	...	...	...	1	...	...	...	...	1	...	

TABLE IV.—*Infectious Diseases in the Surgical Wards during* 1898.

Sex.	Age.	Date of Admission.	Disease for which Admitted.	Infectious Disease.	Result and Date.
F.	16	December 7, 1897	Osteitis of tibia.....	Erysipelas	Discharged well January 13, 1898.
M.	$1\frac{3}{12}$	February 28, 1898	Inguinal hernia	Scarlatina	„ to Fever Hospital February 28, 1898.
M.	45	„ 17, „	Cerebral laceration	Erysipelas	Discharged well March 23, 1898.
M.	14	March 24, „	Lupus.....	Scarlatina	„ to Fever Hospital March 29, 1893.
M.	4	May 24, „	Enlarged glands	„	Discharged to Fever Hospital May 24, 1898.
M.	?	July 6, „	Abscess of head	„	Discharged to Fever Hospital July 7, 1898.

REPORT OF CASES IN "ARDEN WARD"

(FOR DISEASES OF WOMEN)

DURING THE YEAR 1898.

By

W. W. R. FLEMING.

Number of cases in "Arden" on January 1st		10
Number of cases in "Arden" on December 31st		6
New cases admitted during the year		97
Total cases treated during the year		113
Cured and relieved	92	
Unrelieved	8	
Died	3	
Transferred	4	
Under treatment	6	
		113

Cases in "Arden Ward."

Nature of Case.	No. of Case.	Initials.	Age.	Result.	No. in Register.	Remarks, treatment, &c.
Uterus:						
Fibroid tumour	I	M. S.	37	Relief	Y. 46	Interstitial and sub-peritoneal. Large sub-peritoneal tumour removed.
	II	E. D.	39	„	X. 202	Interstitial of anterior wall. Menorrhagia.
	III	M. C.	44	„	Y. 79	Interstitial. Menorrhagia. Metrorrhagia.
	IV	F. B.	32	„	Y. 32	Polypoid mass protruding from external os. Mass went back into uterus by itself. Fundus uteri enlarged.
Retroflexion	I	C. W.	32	„	Y. 78	Hodge pessary.
	II	J. D.	28	„	Y. 55	Chronic perimetritis. Fundus bound down in Douglas' pouch.
Retroversion	I	L. A.	28	„	X. 222	Pessary.
	II	E. B.	29	„	Y. 64	Pessary. Symptoms of plumbism on admission. Transferred to medical ward.
Carcinoma.....	I	A. W.	38	*In statu quo*	X. 208	Body affected.
	II	E. P.	48	Relief	Z. 4	Body and cervix involved.
Procedentia	I	S. H.	42	Great relief	X. 212	Ring pessary.
	II	E. P.	46	Relief	Y. 74	„
	III	A. M.	63	„	Y. 26	„
Endometritis.....	I	F. H.	29	„	Y. 62	Chronic endometrium. Curetted.
	II	R. B.	30	„	Y. 60	Chronic phthisis.
	III	M. K.	21	Cure	Y. 51	Acute. Vaginal discharge (? gonorrhœal).

Polypi	I	A. M.	—	Cure	X. 204	Placental. Curetted.
Cervix Uteri:						
Malignant disease	I	S. H.	53	Relief	Z. 10	Body of uterus enlarged and fixed. Inguinal glands of both sides slightly enlarged.
	II	M. W.	55	,,	Y. 53	Curetted and cauterised.
	III	E. B.	52	,,	Y. 57	,, ,,
	IV	M. C.	39	,,	Y. 4	2nd stage.
	V	C. W.	39	Great relief	Y. 14	Curette and cautery.
	VI	E. P.	28	Unrelieved	Y. 18	Vesico-vaginal fistula.
	VII	E. P.	41	Relief	Y. 31	
Polypi	I	B. H.	45	Cure	Z. 12	Fibrous. Removed with scissors. Weight of tumour 5¼ ozs.
	II	F. L.	28	,,	X. 216	Removed by operation.
	III	F. B.	56	Relief	X. 218	Fibrous. Removed with scissors.
	IV	T. B.	46	Cure	Y. 12	Mucous. Removed. Menorrhagia.
	V	H. B.	47	,,	Y. 36	,, ,, ,,
	VI	C. F.	44	,,	Y. 38	Metrorrhagia. Two polypi removed by torsion.
	VII	M. Y.	49	Relief	Y. 39	Fibroid. Removed with ecraseur and scissors. Weight of tumour 5½ ozs. Fundus uteri enlarged and surface irregular. (*Vide* W. 224.)
Elongated cervix	I	A. T.	35	,,	Y. 210	Procedentia. Pessary.
Ovary:						
Ovaritis	I	E. T.	31	Cure	Z. 17	Acute. Left side.
	II	E. W.	27	Relief	Y. 34	Double. Spasmodic dysmenorrhœa. Incision of cervix.
Tumours:						
Cystic	I	C. M.	49	Cure	Z. 13	Bilateral and simple. Ovariotomy. Mitral and aortic disease.
	II	H. G.	39	,,	Y. 54	Ovariotomy.
	III	A. T.	62	Death	Y. 35	Bilateral. Ovariotomy. Adhesions. Peritonitis supervened.
	IV	E. B.	52	Cure	Y. 21	Multilocular. Ovariotomy.
	V	A. J.	21		X. 206	No operation.

Cases in "Arden Ward"—*continued.*

Nature of Case.	No. of Case.	Initials.	Age.	Result.	No. in Register.	Remarks, treatment, &c.
VAGINA:						
Vaginitis	I	S. H.	24	Relief	Y. 15	Syphilis.
	II	L. G.	27	Cure	Y. 59	Pregnancy.
Ulceration	I	E. B.	49	Slight relief	Y. 5	Anterior and lateral walls involved (? malignant).
Cyst	I	E. M.	46	Relief	Z. 7	Cyst incised and portion of its wall removed. Cavity of cyst was curetted and plugged.
Laceration	I	E. F.	25	Healed	Z. 9	Traumatic in origin. Laceration involved, posterior wall only.
VULVA:						
Sessile growth	I	F. B.	73	,,	Z. 14	Actual cautery applied. Growth of a warty character. An irregular patch of about the size of a shilling was to be seen on the mucous surface of left labium majus. The right labium majus only slightly affected. Labia minora were quite free.
Cyst of Bartholin's gland	I	A. C.	34	*In statu quo*	X. 232	Suppurating.
	II	M. E.	22	Relief	Y. 47	Cyst discharged itself.
Ruptured perinæum	I	F. W.	31	Cure	X. 224	Operation.
	II	A. R.	24	*In statu quo*	Y. 20	
	III	E. H.	46	Cure	Z. 5	,,
BLADDER AND URETHRA:						
Retention of urine	I	A. W.	34	Relief	Y. 48	Pregnancy.
	II	M. S.	31	,,	Y. 49	,,

Cystitis	I	C. S.	54	Relief	Y. 27	
	II	B. H.	43	Cure	Y. 37	
	III	E. C.	48	„	Y. 29	
Urethral caruncle	I	F. B.	56	Relief	X. 218	Caruncle removed with knife. Actual cautery applied.
PELVIS:						
Perimetritis	I	F. S.	31	„	Y. 41	Chronic. Subsequent right hemiplegia with aphasia. Transferred to Queen Adelaide.
	II	L. F.	42	Great relief	X. 214	Chronic.
	III	A. J.	23	Relief	Y. 2	After miscarriage.
Parametritis	I	E. M.	39	Discharged	Y. 71	Chronic.
	II	E. W.	29	Relief	Y. 73	*Vide* V. 178.
Hæmatocele	I	M. N.	41	„	Y. 13	
	II	A. H.	21	Cure	Y. 25	Syphilis. Pyrexia.
Contracted pelvis	I	L. D.	29	Recovery	Y. 45	Exostosis of sacral promontory. Seventh month. Kraute's method adopted.
	II	P. D.	40	„	Y. 52	Mass in right iliac fossa subsequent to blighted ectopic gestation. Seventh month. Kraute's method.
	III	K. E.	29	„	Z. 16	Six and a-half months. Kraute's method. Narrow conjugate.
PREGNANCY AND ITS ACCIDENTS:						
Subinvolution	I	T. A.	30	Cure	Z. 15	After premature labour.
	II	C. P.	29	„	Y. 3	Severe vomiting.
Miscarriage	I	D. T.	32	Recovery	X. 220	Admitted in labour.
	II	F. P.	30	„	X. 228	Albuminuria.
	III	E. C.	20	„	Y. 61	Admitted in labour.
	IV	F. M.	38	„	Y. 7	Blighted fœtus. Retained placenta.
	V	E. W.	30	Cure	Y. 10	Sequelæ. Pyrexia. Œdema of lungs.

Cases in "Arden Ward"—*continued.*

Nature of Case.	No. of Case.	Initials.	Age.	Result.	No. in Register.	Remarks, treatment, &c.
Pregnancy and its Accidents—*contd.*						
Abortion	I	R. C.	28	Cure	Y. 45	Menorrhagia.
	II	H. H.	20	„	Y. 60	Sequelæ.
	III	J. D.	25	„	Y. 63	„
	IV	T. P.	29	„	Y. 18	„
	V	C. O.	33	„	Y. 46	„ Floating kidney.
Retained placenta	I	A. E.	35	Recovery	Y. 42	After miscarriage. Placenta removed manually.
	II	E. S.	34	„	Y. 65	„ „ „
Carneous mole	I	C. C.	35	„	Y. 56	
Induction of premature labour	I	E. E.	45	„	Y. 58	For morbus cordis.
Disorders of Menstruation:						
Amenorrhœa	I	J. R.	34	Relief	Z. 6	Slight kyphosis. Constipation.
Menorrhagia	I	C. K.	29	„	Y. 1	Alcoholic.
	II	A. G.	26	„	Y. 9	Uterus almost fixed.
	III	E. B.	27	„	Y. 16	
	IV	E. W.	30	„	Y. 23	Fundus enlarged.
	V	E. S.	40	„	Y. 33	
	VI	E. B.	28	Cure	Y. 72	After miscarriage.
	VII	C. J.	24	„	Y. 76	„ Metrorrhagia.
	VIII	E. B.	33	Relief	Y. 81	Constipation.

Menorrhagia	IX	E. S.	33	Cure	Y. 66	Metrorrhagia. After miscarriage.
	X	J. E.	34	„	Z. 2	„ „ „
	XI	G. B.	30	„	Z. 11	„ „ „
Dysmenorrhœa	I	F. R.	29	Relief	X. 230	Constipation.
	II	R. P.	19	„	Y. 19	
	III	A. D.	30	„	Y. 6	
Menopause	I	M. H.	49	„	Y. 81	Severe pelvic pains. Desquamating eruption of palms.
	II	E. H.	58	„	Y. 69	
SEPTIC PROCESSES:						
Puerperal septicæmia	I	R. T.	21	Cure	Y. 22	
„ sapræmia	I	J. C.	40	Death	Y. 24	
Pyosalpinx	I	E. C.	35	„	Y. 30	Peritonitis.
UNCLASSIFIED:						
Bleeding	I	A. M.	45	Relief	Y. 8	Subsequent to removal of polypus.
Splenic tumour	I	M. A.	49	—	Y. 10	Transferred to "Harpur."
Dilated Fallopian tube	I	E. W.	20	Relief	Y. 11	Neurasthenia. Doubtful diagnosis.
Neurasthenia	I	J. R.	44	„	Y. 28	
	II	M. H.	19	„	Z. 1	
Influenza	I	E. B.	59	Cure	Y. 43	
Hæmorrhoids	I	E. H.	47	—	Y. 67	Transferred to "Percy."

CASES IN "ARDEN WARD"—*continued.*

Nature of Case.	No. of Case.	Initials.	Age.	Result.	No. in Register.	Remarks, treatment, &c.
UNCLASSIFIED—*contd.*						
Chronic constipation ...	I	M. T.	22	Relief	Y. 75	Inguinal hernia.
Pregnancy	I	M. A.	31	—	Y. 78	Discharged.
Arthritis of right wrist	I	A. D.	23	Relief	Z. 3	Yellow vaginal discharge (? gonorrhœal). Grating felt in joint. Discharge cured.
Acute rheumatism	I	K. T.	28	—	Z. 8	Transferred to "Queen Adelaide."

A REPORT ON THE AURAL DEPARTMENT OF WESTMINSTER HOSPITAL FOR 1897 AND 1898.

By PHILIP R. W. DE SANTI, F.R.C.S.

The number of new out-patients during the two years 1897 and 1898 was 724.

The following is a classification of these cases, with brief notes relating to those of interest.

I. Affections of the Auricle and External Auditory Canal.

(a) *Supernumerary auricles*, 2.—In one case there were two rounded tubercles just below the lobule of the right ear. They were removed by dissection.

(b) *Complete congenital occlusion of meatus and canal*, 1.—In this case there was complete nerve deafness and nothing could be done for the patient.

(c) *Serous cysts*, 4.

(d) *Hæmatomata*, 2.

(e) *Cerumen*, 69.

(f) *Eczema and furunculi*, 20.

(g) *Foreign bodies*, 4.—In case 1, three dead flies; case 2, an artificial india-rubber tympanum; case 3, a bead; case 4, a pea.

II. Acute and Subacute Inflammations of the Tympanum—66 cases.

One of these cases was produced by a plated bicycle spoke-wheel penetrating the membrana tympani. Two days subsequent to the injury there was offensive purulent discharge. Intra-tympanic syringing was carried out and a rapid recovery occurred. A similar case was under me in 1896, but terminated fatally from lepto-meningitis.

In four cases there was bulging of the membrana tympani, and myringotomy for evacuation of pus was performed with speedy recovery.

In one case, a woman of 39, there was a history of sore throat followed by right earache, and of one week's duration; when seen by me there was swelling of the glands on right side of the neck and of the right parotid gland. There was well-marked right facial paralysis of three weeks' duration. Scars of old tubercular glandular abscesses of the neck, and dating from childhood, were noted.

Examination of the right membrana tympani showed general bulging of a yellowish red colour. Myringotomy was done and pus evacuated. Pain was at once relieved, and within six weeks the facial paralysis and glandular swellings had disappeared. There was a cicatrix in the membrana tympani and the hearing was good.

III. Chronic Suppurative Otitis Media.

Limited to one ear	170	252
Affecting both ears	82	

In 10 of the cases I performed antrectomy or attico-antrectomy for incurable discharge ranging over periods from four to twelve or more years.

In all these cases long and careful local and general treatment was carried out previous to operation, but with no diminution or relief to the discharge.

Of antrectomies, I performed 10.

Of attico-antrectomies 4.

The following is a short abstract of these cases:—

Case 1.—Double perforative otorrhœa, 7 years' duration. Antrectomy both sides; prolonged drainage for 8 months. Cure right and left side.

Case 2.—Right perforative otorrhœa, 9 years. Tubercle bacilli in pus. Antrectomy and drainage; failure. Later, second operation, followed by facial paralysis. Result, failure.

Case 3.—Double perforative otorrhœa many years; eczema and polypi. Double antrectomy. Cure and improved hearing both sides.

Case 4.—Double perforative otorrhœa, 6 years. Double antrectomy. Cure and improved hearing both sides.

Case 5.—Single perforative otorrhœa, 5 years. Antrectomy. Cure.

Case 6.—Single perforative otorrhœa; polypi. Antrectomy. Cure after 7 months drainage.

Case 7.—Otorrhœa and polypi, 11 years. Antrectomy. Cure.

Case 8.—Double perforative otorrhœa, many years' standing. Attico-antrectomy. Cure with improved hearing on both sides.

Case 9.—Single perforative otorrhœa, 8 years. Attico-antrectomy; lateral sinus abnormal, and exposed at operation. Cure.

Case 10.—Single perforative otorrhœa, 6 years (notch of Rivini). Attico-antrectomy. Drainage 9 months. Cure.

In the whole series therefore of 14 operations performed for intractable middle ear suppuration of many years duration, 13 radical cures were obtained.

There was only one failure, and that in a patient with tubercle bacilli in the pus. In this patient I regret to say I wounded during the operation the facial nerve.

In the Westminster Hospital Reports, vol. x., page 72, will be found an account by me of a case of exploration of the brain for pus in a girl, Sarah S——, aged 21. Though careful search was made the result was negative, but recovery ensued.

This girl's symptoms recurred some months later, and I had occasion in the beginning of 1897 to again explore for intracranial pus. I found an extra-dural abscess between the posterior part of the petrous portion of the temporal bone and the sigmoid sinus; the pus was evacuated, some carious bone removed, and the whole of the parts drained. The patient made a good recovery, and remains well to the present day, though all discharge from the ear has not ceased. The case was reported by me *in extenso* in the "Lancet," vol. i., 1898.

A girl aged 18 attended my out-patients with discharge and deafness of right ear of 8 or 9 years' duration. She had been in St. Thomas's Hospital 7 years previously, and was operated on for lateral sinus pyæmia, her internal jugular vein having also been tied. She made a good recovery, and for 3 months subsequent to the operation was free from discharge. After 3 months immunity, the discharge re-started and remained constant for close on 7 years. I proposed to do attico-antrectomy, but the patient would not consent. I have since lost

sight of her. Her case is interesting as showing that even an extensive operation such as she underwent for sinus pyæmia does not confer necessarily immunity from further discharge.

A young man of 20 years was admitted under me with cerebral symptoms of otitic origin. He had had discharge from the right ear for some time, and latterly polypi. When seen by me he was suffering from well-marked general lepto-meningitis, and nothing of an operative nature was done.

Post-mortem.—There was a very large temporo-sphenoidal abscess and general purulent inflammation of the cerebral and spinal meninges.

I intend later to publish this case more fully.

A case of great interest to me was under my care in October, 1898.

A boy aged 7 was admitted under me in 1896 with intractable right otorrhœa of many years' duration. He looked ill and was occasionally light-headed. I performed antrectomy with immediate relief to his symptoms and eventual complete cure of his otorrhœa.

I lost sight of him until $2\frac{1}{2}$ years later, when he attended my out-patients with discharge from the *left* ear. This his mother stated she had only noticed a few days. The *right* ear had remained quite well, and on examination was quite dry.

The left meatus was full of foul pus and polypi. Temperature 100°. Slight headache and much pain in left ear; also drowsiness and a little tenderness over mastoid.

Patient was admitted the next day, October 25th, 1898. He was delirious during the night and picked at the bed-clothes. Temperature 104°. He had tenderness over left internal jugular vein. No other definite symptoms. On afternoon of 27th retraction of head noticed. Temperature still 104°.

I was sent for and proceeded to operate.

The mastoid antrum was full of foul pus and debris; this was cleared out. The lateral sinus then exposed, pus in groove found and stinking excessively. Lateral sinus, which was thrombosed, was opened; internal jugular vein exposed in neck and tied in two places. Whilst scraping out the lateral sinus foul broken down brain matter was come across. On exploration, cerebellar abscess made out and scraped. Parts drained and dressed aseptically.

The patient went on fairly well, though fluctuating from day to day, and by November 1st note was recorded, "Marked improvement in condition."

On November 2nd he had a rigor and became delirious; later drowsy; and on November 11th his temperature ran up to 107·6° by 5 a.m., and by 7 a.m. to 109°, when he died.

Post-mortem.—An abscess was found involving lower half of the left lobe of the cerebellum, its walls covered with greenish shreddy broken down tissue. There was also dirty pus about the mastoid antrum and in the internal jugular vein down to the site of ligature.

This case is very instructive in that it shows the good results of the operation of antrectomy for chronic discharge. The temporal bones were removed on both sides post-mortem, and one could then demonstrate the thorough cure that had resulted on the right side. It is with a view of preventing these very grave intracranial complications that I repeatedly urge the performance of the radical cure, and I cannot hope to have a better case to illustrate the good effects of antrectomy on the one hand, and the evil effects of neglect on the other, than in this particular case quoted.

In one case, a man aged 23, there was a history of swelling and pain in and around the right ear of 4 or 5 days' duration. The auricle was pushed forwards and there was œdema and tenderness over the mastoid. The membrana tympani could not be seen for inflammatory swelling. There was no discharge of pus from the ear. Temperature 100°. Leeches locally and hot fomentations with a brisk purge caused all the symptoms, &c., to entirely disappear in 2 days. The membrana tympani was then found slightly hyperæmic, but in a week's time was quite normal in appearance.

In 36 cases there were aural polypi.

In 4 cases there were nasal polypi.

There were 6 cases of acute mastoid abscess.

In all I evacuated pus, and good recoveries ensued.

There was one case of chronic mastoid inflammation (osteosclerosis) and one of chronic mastoid periostitis.

IV. Otitis Media Chronica—167 cases.

In one of these cases there was intense pain and deafness in

the right ear due to dense syphilitic adhesions of the soft palate to the pharynx whereby the entire naso-pharynx was cut off from the oro-pharynx. The patient was unable to blow her nose properly, and was in a state of great discomfort. The pain in the ear was due to involvement of the end of right Eustachian tube in cicatricial tissue.

Under an anæsthetic I separated these adhesions, and stitched the detached soft palate well forward to the muco-periosteum of the hard palate, according to my colleague Mr. W. S. Spencer's method.

Pain was at once relieved, and eventually a good passage resulted, neither re-adhesion nor re-contraction taking place.

I occasionally see this patient, and she remains comfortable.

V. Adenoids and Tonsils—95 cases.

All of which I operated on.

The anæsthetic used was mostly chloroform. The position of the head, hanging over a small neck pillow to begin with, and then inclined to one side.

In no case was there any complication to note.

VI. Miscellaneous.

Menière's symptoms, 2; nerve deafness, 6; deaf mutes, 3; nil, 8; otalgia, 12; facial paralysis, 2; antral empyema, 1.

REPORT

OF THE

POST-MORTEM EXAMINATIONS MADE IN 1898.

By R. G. HEBB, M.D.

CASES RECORDED		213
Males	123	
Females	90	
GENERAL DISEASES:		
Enteric fever	3	
Rheumatic fever	1	
Erysipelas	2	
Diphtheria	6	
Septicæmia	8	
Tuberculosis	28	
Lymphadenoma	2	
Diabetes	1	
Rickets	2	
"Purpura"	1	
	—	54
DISEASES OF THE NERVOUS SYSTEM:		
Meningitis	3	
Hydrocephalus	2	
Tumour	2	
Hæmorrhage	9	
Myelitis	1	
Convulsions	3	
	—	20
DISEASES OF THE CIRCULATORY SYSTEM:		
Arteritis (including aneurysm)	5	
Endocarditis	13	
Myocarditis	2	
Dilated heart	2	
Congenital heart	1	
Thrombosis	2	
	—	25

Diseases of the Respiratory System:		
Bronchitis	3	
Broncho-pneumonia	16	
Pneumonia	7	
Pleurisy	1	
Empyema	1	
Chronic interstitial pneumonia	1	
Gangrene	5	
	—	34
Diseases of the Digestive System:		
Ulcer of stomach	5	
„ duodenum	2	
Appendicitis	5	
Colitis	1	
"Gastro-enteritis"	11	
Peritonitis	1	
Cancer of œsophagus	3	
„ stomach	2	
„ sigmoid	1	
„ liver	1	
„ bile duct	1	
Cirrhosis of liver	3	
Hydatid of liver	1	
	—	37
Diseases of the Urinary System:		
Chronic nephritis	5	
Cancer of kidney	2	
„ bladder	1	
	—	8
Diseases of the Lymphatic System:		
Cancer	1	
	—	1
Diseases of the Generative System:		
Cancer of the testicle	1	
„ „ ovary	1	
	—	2
Diseases of the Connective Tissue:		
Cancer	1	
	—	1
Injuries, Operations, and Surgical Diseases:		
Hernia	6	
Impacted gallstone	1	
Stricture of sigmoid flexure	1	
Excision of tongue	2	
Amputation of breast	1	
Ovariotomy	1	
Amputation of thigh	1	
Excision of head of femur	1	
Lithotomy	1	
Prostatectomy	1	

INJURIES, OPERATIONS, AND SURGICAL DISEASES—*continued.*

Otitis	3	
Fracture of skull	2	
„ spine	1	
„ ribs	1	
„ leg	2	
Concussion of brain	1	
Rupture of lung	1	
Scald	1	
Heatstroke	1	
Asphyxia	1	
Cut throat	1	
	—	31

Short notes and remarks on most of the foregoing cases. The numbers 224 *to* 400 *refer to the folios in vol.* x., *from* 1 *to* 38 *to those in volume* xi. *of the P.M. Registers.*

GENERAL DISEASES.

ENTERIC FEVER.—292. F., 19. Ulcers in ileum only; spleen 7¾ ozs.

387. M., 15. Ulcers in ileum only; spleen 12 ozs.

36. M., 17. Ulcers in ileum only; spleen 14 ozs. Hypostatic pneumonia. Much soft black clot in intestinal canal just above and below ileo-cæcal valve.

RHEUMATIC FEVER. 378. F., 29. Hyperpyrexia. No endocarditis; spleen 7 ozs.

ERYSIPELAS.—229. M., 62. Diffuse suppurative inflammation of cervico-mediastinal connective tissue. The respiratory mucosa from epiglottis to bronchi is covered with greenish purulent mucus. Streptococcus infection.

22. F., 28. Of scalp.

DIPHTHERIA.—233. M., 3. Nasal mucosa covered with purulent fluid, but no definite membrane. Membrane on soft palate, tonsils, back of pharynx, and on larynx. Tracheal and bronchial mucosa covered with purulent mucus.

245. F., 2. No membrane; death from palsy of diaphragm and asthenia.

254. M., 2½. Naso-pharyngeal mucosa swollen, plum coloured, and covered with purulent fluid, but no definite mem-

brane. Broncho-pneumonia. Kidneys 7 ozs. Chronic parenchymatous nephritis. Anasarka. Mesenteric glands are large and soft, and some infiltrated with pus.

263. F., $2\frac{7}{12}$. Membrane on tonsils and on respiratory mucosa from larynx to bronchi. Broncho-pneumonia. Tracheotomy.

279 F., 2. Tracheotomy. A few patches of membrane on soft palate and epiglottis. Broncho-pneumonia.

5. F., 2. Tracheotomy. Membrane on pharyngeal mucosa and from epiglottis downwards to bronchi, ending as purulent bronchitis. Broncho-pneumonia.

SEPTICÆMIA.—281. F., $\frac{7}{12}$. Broncho-pneumonia. Numerous small abscesses in kidneys. Both middle ears filled with greenish yellow pus. In the kidney and lungs are large numbers of bacilli, mostly short and thick, but some long and filamentous (Gram.) Micro-sections of lungs and kidneys show acute septic inflammation, hæmorrhagic and pyogenic in type. Examination seven hours after death.

287. F., $\frac{3}{12}$. Suppurative arthritis and myositis. Streptococcus infection.

317. F., 30. Puerperal. Uterus 6 ins. by $3\frac{1}{2}$ ins. across fundus; internal aspect ragged; sinuses at placental site thrombosed. Suppurative teno-synovitis of extensor tendons of left forearm. Kidneys $17\frac{1}{2}$ ozs.; parenchymatous nephritis. Streptococcus infection, but in uterus are also numerous long bacilli with quite square ends.

322. M., 35. Four abscesses of brain and one in psoas; no connection with bone; no evidence of tuberculosis. At the base of left lung is a pigmented mass of hard fibrosis, in the centre of which is a cavity size of a Spanish nut. The pus in abscesses is green, slimy, and fœtid. It contains several kinds of organisms: staphylo- and streptococci; bacilli single and in chains; long delicate filaments, the joints of which are only occasionally visible.

331. F., 40. Puerperal. Uterus $6\frac{1}{2}$ ins. by $5\frac{1}{2}$ ins. across fundus. Placental site on posterior aspect of fundus. The fundal surface is rough, with shaggy villoid masses of necrotic tissue. Cervical portion fairly normal. Left ovarian vein and veins of left broad ligament thrombosed, and the

adjacent soft tissues in condition of diffuse suppuration. Fallopian tubes nil. Large corpus luteum in left ovary. Spleen 12 ozs., soft, almost diffluent. Recent large bed-sore on left buttock.

341. F., 29. Suppuration of the pelvic cellular tissue. Double pyosalpinx, but uterus normal. No disease of bone. Adherent to a chorda of tricuspid is a hard, irregular shaped mass of indurated fibrin size of a Spanish nut. No endocarditis.

342. F., 35. Puerperal. Purulent peritonitis. Uterus 4 ins. Os patulous; on right side of posterior aspect of cervical portion is a lesion of the surface $\frac{3}{4}$ by $\frac{1}{4}$ by $\frac{1}{8}$ inch. Rest of uterine mucosa normal. Pus in both fallopian tubes. Corpus luteum in both ovaries.

21. F., 42. Cellular tissue in right half of pelvis is much thickened and swollen from diffuse fibrino-purulent inflammation. Uterus subinvoluted, $3\frac{1}{2}$ ins.; os fissured, patulous. Recent large corpus in left ovary. Tubes nil. Heart 13 ozs. Purulent fluid and lymph in pericardial sac.; ring of small vegetations along edge of mitral; other valves nil.

TUBERCULOSIS.—231. M., 6. Tuberculous meningitis. Very slight excess of fluid in ventricles. Mucoid fluid in middle ears. Examination of head only.

238. F., $3\frac{1}{2}$. Tubercles in the thoracic and abdominal viscera. The lymphatic glands are very large from presence of tuberculous fibro-caseation. Purulent fluid in both middle ears.

242. M., 32. Fibro-pneumonic phthisis with excavation. Spleen $7\frac{1}{2}$ ozs.; large numbers of tuberculous caseous nodules, mostly size of hemp seed, in spleen. A few small tubercular ulcers in intestinal mucosa.

253. M., 3. Tuberculous meningitis; no dilatation of ventricles. Pus in both middle ears. Tubercles in lungs, on epicardium, and in all the abdominal viscera.

255. M., 49. Tuberculous laryngitis. Lungs indurated from presence of masses of pigmented fibro-caseous tubercles. Excavation. Arteries very atheromatous. Ivory-like fibrosis of capsule of spleen.

257. M., 37. Tuberculous laryngitis. Lungs studded with masses of closely packed caseous tubercles and areas of caseous pneumonia. Excavation at right apex.

258. M., 20. Right lung consolidated from presence of almost confluent caseous tubercles; vomica at apex; right pleura much thickened and adherent. Numerous large yellow tubercles in left lung. Tuberculous laryngitis. Necrosis of 6th, 7th, and 8th left ribs, and 8th and 9th right ribs. Abscesses in muscles of back and in left thigh.

288. M., 5. Lungs packed with large yellow tubercles which are confluent in places, some few breaking down. Tubercles in spleen, liver, and lymphatic glands. Purulent mucus in both middle ears.

295. F., 3. Tuberculous meningitis; ventricles much distended. Tubercles in lungs, liver, spleen, kidneys, and lymphatic glands. Bosses around anterior fontanelle, which is patent.

302. M., 28. Chronic and recent pleuritis. Lungs indurated from presence of closely aggregated racemose masses of pigmented fibro-caseous tubercles. Vomicæ. Suppurative bronchitis. A few tubercles in intestinal mucosa.

307. F., $1\frac{0}{12}$. Tuberculous meningitis; much fluid in ventricles. Tubercles in thoracic and abdominal viscera. Pus in right middle ear and mastoid cells, purulent mucus in left middle ear.

314. M., 9. Tuberculous meningitis; ventricles much distended. Thick mucoid fluid on both middle ears. Tubercles on spleen and in mediastinal lymphatic glands. Yellow lymph in both pleural sacs. Both lower lobes are consolidated and purple, as if from the coalescence of numerous hæmorrhagic foci; in the right upper lobe is a caseation $\frac{1}{2}$ to $\frac{1}{3}$ inch in diameter; it is surrounded by a zone of pigmented fibro-caseous tubercles. Micro-sections of lung show intense hyperæmia with extravasation of red corpuscles in places; the alveoli are crowded with leucocytes and large catarrhal cells; in some there is fibrin. The type is that of a septic bronchopneumonia. There is no histological evidence of tubercle or of the tubercle bacillus (except at and near the caseation site). There are numerous collections of diplococci without capsules.

318. F., $\frac{8}{12}$. Tubercles on epicardium in lungs, spleen, liver, kidneys, and lymphatic glands. Purulent mucus in both middle ears.

319. M., 8. Angular curvature at lower dorsal region.

Caries of bodies of vertebræ from 2nd to 12th dorsal, those most affected being the 9th and 10th. The disks from the 7th to the 10th have disappeared. Pre-vertebral abscess extends from 2nd dorsal to 1st lumbar; the pus forms large bulgings on both sides of spine in thorax. Tubercles in lungs, lymphatic glands, kidneys, and some ulcers of intestine.

325. M., 62. Right pleura much thickened throughout, especially near heart and diaphragm. The internal surface is rough from presence of shaggy lymph; the sac contains about a gallon of turbid yellowish fluid. Section of pleura shows fibrous tissue bestudded with nodules, and areas of caseation. Left pleura normal. Numerous miliary tubercles in both lungs, and a few in kidneys. The gall bladder is distended with soft caseous or putty-like substance, and the cystic duct is blocked with a large calculus. Liver 52 ozs., nil. Fibro-calcareous degeneration of left lobe of thyroid. Large hydrocele of right tunica vaginalis. Micro-sections of pleura show areas of degeneration (tuberculous caseation). There is no attempt at reticulation, and giant cells are absent. There are crowds of tubercle bacilli. Some of the blood-vessels are plugged with cocci. (Gram).

336. M., 54. Deep general jaundice. Liver 70 ozs., smooth; colour brown; somewhat harder than normal; anatomical appearance to naked eye normal. Gall bladder distended with thin watery greyish fluid; no obstruction of cystic or hepatic ducts; fæces formed, clayey, white, putty-like. Kidneys 23 ozs.; parenchymatous nephritis. Right pleura thickened and universally adherent. In right lung are large masses of pigmented fibrous tissue, fibro-caseous tubercles, and caseations. A few vomicæ, one the size of a walnut opens directly into a large bronchus. Left lung fairly normal. Brain 46 ozs. Firm black clot 5 by $2\frac{1}{2}$ by $\frac{1}{4}$ inch lies in intermeningeal space over the left parietal region; it is slightly adherent to pia. The parietal convolutions are but little flattened. Some atheroma of the vessels at the base.

339. F., $7\frac{1}{2}$. Upper halves of both lungs represented by vomicæ; lower halves consolidated from presence of racemose masses of pigmented fibro-caseous tubercles. Tuberculous ulcers of small and large intestines. Tubercles in kidneys and lymphatic glands.

348. F., 32. Almost the whole of both lungs consolidated from presence of closely aggregated racemose masses of pigmented fibro-caseous tubercles. A few small vomicæ. Close to the mesenteric attachment of intestine the peritoneum is bestudded with small patches of blackish pigment; the mesenteric glands in the ileo-colic angle are large and caseo-calcareous; Peyer's patches are atrophied (they lie below mucosal level), none are pigmented.

355. F., $\frac{8}{12}$. Broncho-pneumonic consolidation of upper halves of lungs; several vomicæ with yellow ragged margins and purulent contents. Mediastinal lymphatic glands enlarged and caseous. Micro-sections of lung show tuberculosis supervening on a broncho-pneumonia, and the presence of tubercle bacilli.

366. M., 50. Brought in moribund. Cutaneous surface almost white; œdema of lower limbs. Lungs heavy and much pigmented. Both upper lobes are indurated throughout from presence of confluent masses of pigmented fibroid tubercles; a few racemose masses in lower lobes; a few small vomicæ. Liver 56 ozs.; smooth, yellow, greasy to touch; tough. Kidneys 7 ozs., nil. Testicles and prostate very small.

368. M., 35. Tuberculous laryngitis with necrosis of arytænoid cartilage. In both lungs are racemose masses of pigmented fibro-caseous tubercles and numerous vomicæ. Pleuræ much thickened and adherent, except over diaphragm, where are loculi filled with firm granular and flaky yellow fibrinous lymph. Tuberculous ulcerations of intestine, and perforated ulcers of vermiform appendix; suppurative peritonitis.

375. F., 9. Tuberculous meningitis; no dilatation of ventricles. Tubercles of lungs and of abdominal viscera. Middle ears nil.

379. M., $1\frac{5}{12}$. Tuberculous meningitis; ventricles much distended. Tubercles in thoracic and abdominal viscera.

386. F., 27. Tuberculous laryngitis. Tuberculous consolidation and excavation of lungs.

1. M., 43. Tuberculous laryngitis. Racemose masses of pigmented fibro-caseous tubercles with vomicæ in both lungs.

4. F., 44. Right pleura much thickened throughout; sac contains some 3 pints of thin sanious fluid; its internal surface is rough and shaggy from the deposit of lymph and blood-clot.

The right lung lies collapsed in the costo-vertebral groove; it is studded throughout with large tubercles and tuberculous nodules; the bronchi are dilated and filled with muco-purulent fluid. Some racemose collections of pigmented fibro-caseous tubercles in left lung. A few tuberculous ulcerations in intestines. Some 3 ozs. of purulent fluid in pericardial sac. Uterus and appendages bound down to rectum by old thin adhesions; right hydrosalpinx; ovaries atrophied. Myoma in fundus.

13. F., 10. Punched-out ulcers of scalp. Tuberculous meningitis. Middle ears normal. Ulceration and suppuration of tonsils. Tubercles in lungs, liver, kidneys, and lymphatic glands, but none detectable in spleen. Tuberculous ulcerations of intestine.

19. M., 46. Prevertebral abscesses in lower dorsal and in lumbar regions, associated with abscesses in the back and of the left psoas muscle. There is no caries of the vertebræ, but the disks between 10th and 11th dorsal and 3rd and 4th lumbar are represented by cavities between the bodies of the bones. In some places the cancellous tissue of the bodies is indurated and of a whitish yellow colour. Tubercle bacilli were found in the pus of the prevertebral abscesses. Both lungs are bestudded with miliary tubercles. The pia mater is thick, opaque, and infiltrated with a gelatiniform œdema, in which are collections of pus and purulent lymph in places. The pia strips quite easily. The ventricles are distended with fluid and their walls disintegrating. At the lower end of sternum is a punched-out sore or wound, size of 5s. piece. The margins are granulating, and the floor is formed by the bone. During life a tumour was excised from left forearm; in this typical tubercles were found in the micro-sections.

LYMPHADENOMA.—250. F., 20. The lymphatic glands generally are extremely enlarged and indurated, due to a fibrosis, which in places is caseating, though without any softening. In the stomach and duodenum are numerous and large villoid growths. Spleen 2½ ozs., contains several small deposits. Micro-sections exhibit the appearances of fibrosis; there are, however, both in glands and stomach, a variable number of large cells with several nuclei.

286. M., 7. Lymphatic glands generally, bar the mesenteric,

are large, tough, whitish yellow, and shiny on section. Spleen 10¾ ozs.; is hard, of a dark purple colour, and is studded all over with small suety areas of fibrous tissue, the surface being bossed and irregular from the underlying suety nodules. Liver 27 ozs.; firm, pale brown. Micro-sections of spleen, liver, and glands show areas of fibrosis, in which are numerous poly-nucleated cells; in the spleen are a few areas of pigment granules. The vessels in the spleen and glands are filled with cocci. The ultimate cause of death was broncho-pneumonia.

DIABETES.—271. M., 33. Pancreas 2¼ ozs. Kidneys 16 ozs. Liver 72 ozs. Joints nil. Abdominal viscera fairly normal, though the renal cortex is of a pale drabby pink hue, mottled with reddish linear striæ. Admitted in condition of collapse, T. 95·8°, sugar about 10 grs. to the ounce, a trace of albumen, acetone and aceto-acetic acid reactions well marked.

RICKETS.—309. M., $\frac{9}{12}$. Skull cap thin; cranio-tabes; sutures loose; ribs beaded; ends of long bones large; digits of feet and hands in condition of carpo-pedal contraction. Brain, thoracic and abdominal viscera show nothing abnormal. Weight 7 lbs. 7 ozs.

20. F., $1\frac{3}{12}$. Head long and large; anterior fontanelle large; ribs beaded; ends of long bones large. Eyes sunken. The back and front of trunk are covered with minute hæmorrhagic extravasations into the skin. The colon is throughout the site of ulcerations of the mucosa; these are most frequent in the lower half, where in places they are confluent; in the upper half the ulcers are discrete and roughly circular.

"PURPURA."—328. F., 4. Surface generally very pallid, but is marked with numerous purple blotches. Part of left ala nasi, adjacent part of cheek, and portion of lower lip have been recently removed by surgical operation. The viscera generally are pallid and exsanguine; the blood in the vessels is fluid, thin, and very pale red, but removed to watch-glass it turned dark and clotted. Liver 24 ozs., very firm; of a pale orange-brown colour. Pancreas 1 oz., hard. Spleen 6½ ozs., free, red-purple in colour. No enlarged lymphatic glands. Numerous small spots of greenish black pigment in mucosa of colon. Micro-sections of liver show large numbers of areas where

are collections of lymphoid cells, *i.e.*, small round cells. Apparently these are in vessels, and while most and the largest areas are adjacent to portal canals, there are numerous others elsewhere. There is no chronic hepatitis and no polynuclear cells. The capillaries are dilated, and some are blocked with cocci. The spleen is crowded with lymphoid cells, while the number of red corpuscles is relatively very small. The microscopical appearances of sections of the liver are strikingly like those of leukhæmia.

Diseases of the Nervous System.

Meningitis.—304. M., $\frac{8}{12}$. Suppurative meningitis. Hæmorrhagic petechiæ in cortex of kidney, and in intestinal mucosa. Ribs beaded. No other abnormal appearances.

362. F., 27. Convolutions flattened, surface buff-coloured; ventricles dilated, contain turbid purulent fluid, and the walls are softened and disintegrating. The tissue of brain and cord is soft and not hyperæmic. At the base and especially about the pons are collections of turbid fluid and purulent lymph in the meshes of the pia mater; there is turbid fluid in subarachnoid space of cord. In uterus is healthy-looking female fœtus at or near full term. Corpus luteum in right ovary. Fluid from the cord and brain shows only large bacilli, with slightly rounded ends; they are more numerous in the spinal than in the cerebral fluid (examination made 42 hours after death).

374. M., $4\frac{1}{2}$. Brain 46 ozs.; soft; convolutions flattened, but no excess of fluid in ventricles. Cortex very hyperæmic along the sides. Pia adherent in places. No exudation into pial meshes. Excess of adenoid tissue in naso-pharynx and in last 18 inches of ileum. No other abnormal appearances.

Hydrocephalus.—262. F., 35. Brain 44 ozs., convolutions flattened; lateral and 3rd ventricles much distended, and filled with clear watery fluid. Iter and 4th ventricle unaffected. The walls of lateral ventricles are very thin, and the floor of the 3rd extremely tenuous. The tips of both temporo-sphenoidal lobes are adherent to the dura-arachnoid. In the transverse fissure at the cerebro-cerebellar junction the pia is thick and

tough, and the horizontal rami of the sylvian fissures are opened up with difficulty. The velum is thin and wasted. There is no evidence of recent meningitis. The cerebral substance is soft and flabby. Thoracic and abdominal viscera normal.

392. F., 35. Convolutions flattened; ventricles and iter enormously distended, and the walls thereof correspondingly attenuated. The iter is blocked at posterior end, and the 4th ventricle is normal. The corpora quadrigemma are much indurated. The choroid plexus is atrophied. The floor of 3rd ventricle is extremely thin, and the base of brain about the quadrilateral space is much atrophied; the optic chiasma and nerves are implicated in the wasting. Pia mater normal. The thoracic and abdominal viscera are quite normal.

TUMOUR.—285. M., 9. Brain 45. Convolutions flattened; ventricles dilated and distended with clear watery fluid. A soft white growth involves the middle of cerebellum, though projecting outwards on both sides at the front. On the left side the 9th, 10th, and 11th nerves are stretched over the projecting mass. Mesial incision shows that the growth occupies the central moiety of cerebellum, and that anteriorly it has pressed on the 4th ventricle and iter. Hence the hydrocephalus. The central canal of the cord is dilated in the dorsal region. Microscopically the tumour is found to be composed of small round and small spindle cells: sarcoma.

373. M., 52. Brain 55 ozs. Left hemisphere 22½ ozs. Right 25½ ozs. Cerebellum and pons and medulla 7 ozs. Convolutions of right hemisphere are flattened, especially in posterior half, while the fissures on the left side are quite deep. The pia strips easily except over and near the tumour. On the inner aspect of posterior third of right hemisphere is seen a tumour measuring 2 ins. by 1⅜ ins. On section it has a yellow and granular appearance, while in its centre is a gelatinous area with a diameter of about ½ an inch. The margins of the growth are well defined. It lies in the cuneus, the 1st and 2nd internal temporo-sphenoidal and occipital convolutions, while outwards it reaches to within ½ to ¾ inch of the external convolutions. There is slight excess of fluid in lateral and 3rd ventricles. Spinal cord nil. Thoracic and abdominal viscera nil. Micro-sections show that the growth has evidently arisen

in connection with the meninges. It is highly vascular, and the cells of the neoplasm are massed around the vessels. It has some resemblance to the endothelioma of the dura, and might be termed a cylindromatous endothelioma. The growth is only visible at the margin of the tumour, the rest of the tumour showing merely exudation and degeneration.

HÆMORRHAGE.—227. F., 44. Hæmorrhage into pons and posterior part of crura. Clot extends forwards into right lateral ventricle and backwards into 4th ventricle. Slight atheroma of pial vessels; aorta and other arteries normal. Heart 21 ozs.; great hypertrophy of left ventricle. Kidneys 13 ozs.; normal. Liver 84 ozs.; friable, fatty. Body large and adipose.

244. M., 59. In the white substance of the right parieto-occipital region is a recent hæmorrhage the size of a large walnut. It is roughly spheroidal; it reaches the cortex, but does not attain to the surface. Pia thick and opaque. Kidneys 11½ ozs.; granular cortex. Deep ulcers at back of both legs, the tendo achillis being exposed.

259. M., 46. Brain 46 ozs.; old extravasation cyst in upper part of right temporo-sphenoidal lobe size of walnut; recent hæmorrhage into same lobe; the blood has burst inwards into the lateral ventricle, while externally it has spread diffusely along the subarachnoid space, and has also found its way into intermeningeal space. Heart 19¾ ozs., much subepicardial fat. Liver 73 ozs., cirrhotic. Right eye sunken and atrophied; grey degeneration of right optic nerve.

264. M., 40. Brain 52 ozs.; diffuse subarachnoid hæmorrhage at both sides of cerebrum and cerebellum. Hæmorrhage ploughing up right corpus striatum and breaking through into ventricle, which is full of soft black clot; sanious fluid in left lateral ventricle. Pia thick and opaque. Dura adherent. Lower lobes of both lungs in condition of red hepatisation. Arteries normal. Kidneys normal. Pancreas 2 ozs.

296. M., 54. Soft, black clot at base, especially around pons, medulla, on under surface of cerebellum, and all the way down spinal cord. The hæmorrhage is subarachnoid, though in the left middle fossa there is a thickish mass of clot in intermeningeal space, evidently having burst through the pia-

arachnoid. Heart 14 ozs. Arteries fairly healthy. Kidneys 12½ ozs., nil. Lungs very emphysematous; pleuræ adherent; costal cartilages calcified; chest barrel-shaped. Liver 48 ozs.; gall bladder distended with thin yellow puriform fluid; 4 gall-stones, one of which blocks the duct.

346. M., 54. Brain 52 ozs. Convolution flattened. On making a median incision soft black clot is found in the lateral and 3rd ventricle, the iter, and 4th ventricle. The hæmorrhage has proceeded from the right optic thalamus, which is thoroughly disorganised. Some atheroma of vessels at base. Heart, arteries, and kidneys nil. Was brought in comatose. Urine drawn off, sp. gr. 1014, small amount of albumen and much sugar.

369. F., 38. Brain 41 ozs. Clot over vertex; that on right side weighs just 2 ozs., and measures 5 ins. by 3 ins.; the surface of this hemisphere is depressed. The clot on the left side is thin, and from the change of colour around appears to be older than that on the right side. All the clot lies in the intermeningeal space; there is no hæmorrhage into the brain substance; there is no fracture of the skull; the bleeding has proceeded from a ruptured pial vein or veins; chronic tubercular fibroid phthsis with some excavation of lungs. Heart and arteries and kidneys nil.

371. M., $\frac{8}{12}$. No evidence of traumatism. On removing calvarium several ounces of fluid blood escaped from the right side. In the intermeningeal space is a soft black clot weighing about 1½ ozs., and the arachnoid surface of the dura is covered with soft black adherent coagulum. In the right sylvian fissure there is a small soft clot in the subarachnoid space. The surface of the hemisphere is much depressed. No other abnormal appearances.

2. F., 40? Brain 43 ozs. In the left central fissure is a flat, fairly firm, smooth black clot. It is about 2½ ins. long, and fits into the fissure without having damaged the subjacent cortex. It is evidently derived from the pia. The pia is thick and opaque in its anterior half. The 1st and 2nd left frontal convolutions are in condition of white softening, the pia and dura being adherent over this area. There is no fracture of the skull. Trephine opening over the left rolandic region. Thoracic and abdominal viscera nil.

MYELITIS.—37. F., 30. Brain 41 ozs., and membranes normal. Suppurative transverse myelitis of cord in lower third of dorsal region; pus in subarachnoid space of lower half of cord; upper half nil. Spinal canal and bones nil. Broncho-pneumonic consolidation of both lower lobes; some lymph in right pleural sac. Spleen 53 ozs.: hydatid cyst 5 ins. in diameter in substance which is stretched over cyst. Cyst full of daughter cysts and degenerated hydatid membrane.

DISEASES OF THE CIRCULATORY SYSTEM.

ARTERITIS.— 290. M., 49. Aneurysm, size of orange, of transverse portion of aortic arch. Posteriorly it presses on lower third of trachea. The left recurrent and the right pneumogastric and superior cava are stretched out over the sac. General chronic arteritis. Heart normal. Bronchitis, pneumonia. Left inguinal hernia.

308. M., 56. Heart 22 ozs. Left ventricle hypertrophied and dilated. Aortic valve incompetent from stretching of the ring and valvulitis of one cusp, the other two being normal. Aorta and its larger branches in advanced condition of atheroma; first part of arch is dilated, its circumference being 4·0 in.; viscera cardiac.

396. M., 25. Aneurysm, size of cocoa-nut, of thoracic aorta over against 4th, 5th, and 6th dorsal vertebræ, the bodies of which are eroded. The aneurysm has burst into œsophagus opposite 4th dorsal. The aorta is throughout in condition of soft atheroma. Heart 9 ozs., normal. Stomach and œsophagus filled with soft black clot (3 lbs.) Broncho-pneumonia from pressure of sac on root of right lung.

11. M., 40 ? Pericardial sac distended with soft black clot (13½ ozs.) Heart normal in size. Aneurysm of first and second parts of arch, the aorta there being in condition of soft atheroma. In the front and just above the aortic valve is a small rupture hole. Rest of aorta and arteries normal in appearance. Kidneys 12 ozs. Large area of cortical atrophy in both kidneys. Tertiary syphilitic eruption on right forearm and old scars on legs.

25. M., 57. Aneurysm of first and second parts of arch with secondary bulgings of main sac. Posteriorly sac impinges

on lower end of trachea and right bronchus. The aneurysm has burst into trachea just above bronchus. The aorta is very atheromatous throughout. Heart of normal size. Much inhaled blood in lungs, and soft clot in stomach. The left recurrent is quite free, and lies just outside sac.

ENDOCARDITIS.—268. M., 44. Heart 15 ozs.; left ventricle hypertrophied. Aortic cusps thickened and recurved, and valve incompetent; other valves nil. Arteries very atheromatous. Lungs large, emphysematous, and very œdematous. Spleen 19 ozs., capsule thickened; substance tough, fairly homogeneous; colour brick-red. Chronic peritonitis.

294.—M., 46. Heart with pericardium, which is universally adherent, 41 ozs. Aortic cusps thickened and recurved, and valve incompetent. Other valves nil. Ventricles hypertrophied. Arteries very atheromatous. Hydrothorax with carnification of right lung. Viscera cardiac. Urate of soda in big-toe joints. Both testicles much indurated and shrunken, are practically converted into fibrous tissue.

326. M., 61. Heart 29 ozs. Left ventricle hypertrophied, but not dilated. Aortic cusps thickened with calcareous deposit at bases, and two welded together. Orifice much stenosed. Other valves nil. Medium and small arteries very atheromatous; aorta fairly normal. Kidneys 12 ozs., red, granular, atrophied. Pneumonia. Fibro-calcareous degeneration of left lobe of thyroid.

17. F., 30. Heart 28 ozs. Ventricles hypertrophied. Aortic orifice is stenosed, and valve incompetent from the presence of large calcified masses on the cusps, and the rupture of one cusp. Other valves nil. Arteries normal. Scars of old infarcts in spleen and kidneys. Pneumonia. Fibro-calcareous degeneration of thyroid, which is large.

277. M., 12. Heart with pericardium, 28 ozs. Pericardium much thickened and universally adherent. Vegetations on tricuspid, mitral, and aorta valves. Flaps of mitral and tricuspid much thickened, adherent, and their chordæ shortened. Viscera cardiac.

284. F., 31. Heart 16 ozs. Flaps of tricuspid and mitral thickened and adherent, and the orifices of valves stenosed; aortic cusps thickened and recurved; on all three are a few

coarse vegetations. The auricles are extremely large. Viscera cardiac. Adherent to œsophagus, and about one inch from its commencement, is a thin-walled cyst, size of a pigeon's egg. Over it passes the left recurrent nerve. It is lined by columnar epithelium.

293. F., 20. Heart 15 ozs. Flaps of tricuspid and mitral thickened, adherent, and orifices of valves, especially of mitral, stenosed. Aortic competent. Auricles extremely large, and their walls quite tenuous. Viscera cardiac. Scars of old infarcts in spleen.

327. F., 56. Heart 15 ozs. Flaps of mitral and tricuspid thickened, adherent, and orifices of valves stenosed. Aortic competent. Old infarcts of spleen and kidneys. Gangrene of head of colon from thrombosis of mesenteric vein. Huge extravasation into abdominal wall beneath peritoneum.

12. F., 62. Heart 12½ ozs. Mitral flaps thickened, calcified, rigid, and orifice of valve much stenosed. Aortic competent. Pulmonary valve lets water through easily; the corpora are large and hard; the pulmonary artery above valve is distinctly dilated, and is just 4·5 ins. in circumference. Hypertrophy of right ventricle. Viscera cardiac.

18. M., 33. Heart with pericardium, which is much thickened and universally adherent, 43 ozs. Mitral flaps thickened, adherent, and orifice stenosed. Aortic cusps thickened and recurved. Small vegetations along margin of mitral. Left ventricle hypertrophied and dilated. Auricles dilated. Viscera cardiac.

306. F., 20. Large mass of vegetations on wall of left auricle; large coarse vegetations on flaps of mitral and its chordæ, one of which is ulcerated through. Other valves nil. Left auricle large and hypertrophied. Spleen 22 ozs. Caseating infarct occupying about one-fourth of the bulk of the viscus, the rest of which is soft and of a pale red colour. The viscera generally are pallid and exsanguine.

14. M., 43. Heart 19 ozs. On one aortic cusp is a large mass of soft vegetation, small vegetations on the other two; cusps are thickened and recurved. Other valves nil. Left ventricle dilated, large, but the wall is only just half-an-inch thick. Viscera cardiac.

33. M., 42. Vegetations with sacculation of mitral. Aortic

thickened with old perforation of one cusp. Pneumonia. Heart 18 ozs.

MYOCARDITIS.—289. F., 34. Heart of natural size, globose, in diastole; cavities distended with soft black clot; no endocarditis. Wall of left ventricle = $\frac{3}{8}$ in., over a considerable area is yellow and granular. Much clear fluid in all large serous sacs. Hæmorrhagic infarct in left lung. Was brought in dead. Micro-sections of left ventricle show that many of the muscle fibres are in condition known as fatty degeneration, *i.e.*, they contain numerous globules, and their natural structure is impaired or lost. The globules, however, either do not respond, or almost not at all, to osmic acid. The adipose tissue, however, reacts promptly.

395. M., 37. Heart $14\frac{1}{4}$ ozs. Wall of left ventricle close to septum is in condition of gangrene from septic myocarditis. Large ante-mortem coagulum is adherent to wall of ventricle at the site of gangrene. No endocarditis. Infarcts in spleen and kidneys. The thigh has been recently amputated in its lower third for gangrene. No clot, except close to ligature, in femoral artery.

DILATED HEART.—243. M., 62. Heart 29 ozs. No endocarditis. Aortic valve competent. Mitral $4\frac{1}{8}$ inch. Tricuspid $6\frac{1}{4}$ inch. In the intermuscular interspaces of left ventricle are numerous firm decolourised adherent coagula. Arteries normal. Extensive hæmorrhagic infarcts of lungs. Viscera cardiac. Anasarka, ascites, hydrothorax.

356. M., 64. Heart $30\frac{1}{4}$ ozs.; shape globose; in diastole; cardiac muscle firm; no endocarditis. Aortic valve competent $3\frac{1}{4}$—$\frac{1}{2}$ inch. Mitral $5\frac{1}{2}$ inch. Tricuspid $6\frac{1}{2}$ inch. Wall of left ventricle = $\frac{5}{8}$ inch. Viscera cardiac. Stellate scar of healed gastric ulcer about centre of lesser curvature.

CONGENITAL.—27. F., 23. Heart 13 ozs.; pericardium is thick, white, and opaque; sac dilated, and contains about 10 ozs. of clear fluid. Auricles hypertrophied and dilated. Ventricles small. Tricuspid=4·0 inch. Mitral=4·0 inch. On wall of left auricle is a line of calcareous nodules; the rest of endocardium is quite normal. The auricular opening of inferior cava is extremely large, and all the principal hepatic

veins are of enormous size. The liver surface is very uneven from presence of numerous bosses; the interspaces correspond to the site of hepatic veins. The hepatic substance is of normal consistence, and except for the presence of the large hepatic veins, of normal appearance. The peritoneum, though a little opaque in places, is on the whole fairly normal. The principal clinical phenomenon was ascites, for which the patient had been frequently tapped. The reproductive organs are extremely small, almost rudimentary.

For another case, see broncho-pneumonia 349.

THROMBOSIS.—316. F., 19. Brain 43 ozs. Convolutions flattened. Pia normal. Excess of fluid in ventricles, which are dilated, and their walls softened. The occipital and straight sinuses, as far as torcular, are blocked with firm black granular clot. The veins of Galen are firmly clotted and distended. The basal ganglia are bestudded with distended vessels and minute hæmorrhages. The central part of left optic thalamus is softened. Numerous hæmorrhagic puncta in corpus callosum. Micro-sections of basal ganglia show appearances of blockade—extravasation; there is no exudation, but merely rupture of engorged vessels. No microbes.

329. M., 69. Heart 17 ozs. Numerous ante-mortem polypi in left ventricle; one, the size of a hen's egg, is adherent to the wall of the ventricle, which is in condition of fibro-caseation. Valves normal. Arteries normal. Both femoral veins are occluded as high as Poupart's ligament by firm adherent decolourised clot. The right jugular vein is enormously distended with soft black clot. The clot in the right cardiac cavities is quite soft and loose. Extensive hæmorrhagic infarcts in lungs. Abdominal viscera cardiac. At the base of right vocal cord is a sharp punched-out ulcer, exposing the cartilage.

DISEASES OF THE RESPIRATORY SYSTEM.

BRONCHITIS.—260. M., 56. Emphysema. Bronchi choked with purulent fluid. Brain 47 ozs. Yellow softening of left internal occipital convolutions.

267. M., 54. Emphysema. Purulent fluid in bronchi. Pigmented fibrosis of lung in places. Costal cartilages calcified.

315. M., 50. Lungs large, heavy, pigmented; bronchi dilated; emphysema; purulent fluid in bronchi. Chronic adhesive pleuritis. Heart 14½ ozs.; hypertrophy of right ventricle. Three ulcers on lesser curvature of stomach.

BRONCHO-PNEUMONIA.—349. F., $\frac{1}{12}$. Broncho-pneumonia after pertussis. Heart 2½ ozs. Left ventricle greatly hypertrophied, the wall being half-an-inch thick and $\frac{5}{8}$ near base. No endocarditis or stenosis of aortic valve. Near base a thick columna carnea stretches across ventricle, thus practically stenosing the passage and impeding the blood flow. Shape of heart globose.

PNEUMONIA.—225. M., 37. Chronic pleuritis; emphysema; bronchitis; grey hepatisation. Heart with pericardium 20 ozs. Greenish yellow purulent fluid in pericardial sac, and serous surface covered with shaggy lymph. Pneumococcus in pericardial fluid.

282. M., 57. Grey hepatisation.

323. M., 60. Red hepatisation of left upper and part of lower lobe; lymph in pleural sac.

384. M., 44. Red hepatisation. Heart 14½ ozs. Large old vegetation on aortic valve.

237. F., 42. Grey hepatisation of left lower lobe; red hepatisation of right lower lobe. Several pints of puriform fluid and yellow lymph in left pleural sac. Heart 20 ozs.; no endocarditis; left ventricle hypertrophied; large ante-mortem coagulum adherent to apex of left ventricle. Left iliac vein and branches occluded with firm adherent decolourised clot. Brain 52 ozs.; patch of recent red softening in cortex of right parietal region. Kidneys 14 ozs.

35. F., 26. Body much emaciated. Whole of right lung pneumonic; no superjacent pleuritis. Uterus 7 ins. long; in condition of recent delivery. Wall thick and soft. Os widely patulous. Cervical mucosa lacerated all round, but not deeply. Fundus covered with thick layer of adherent black clot. Clot in uterine sinuses. Appendages normal. Stomach normal. About an inch from gastric opening the œsophageal wall is stained of a dirty green colour and exhibits a linear rupture of mucosa. There is not the usual appearance of ulceration, and

the coat is little if at all thicker than elsewhere. It is possible that the sulphuric acid said to have been taken by the patient may have inflamed and softened this part; but on the whole I am inclined to think that the staining is cadaveric and the rupture due to scissors. I have often seen this part of the œsophagus softened and several times eaten right through as the result of the action of the body juices after death.

38. F., 28. Whole of left lower lobe in condition of grey hepatisation passing into stage of purulent infiltration.

PLEURISY.—228. M., 60. Lungs large, emphysematous, quite black (anthracosis), œdematous; no pneumonia. In both pleural sacs are yellow fluid and yellow lymph. Pneumococci in the pleural fluid and lymph.

EMPYEMA.—303. M., 54. Resection of parts of 7th and 8th right ribs. Pleural cavity much contracted. Lung shrunken, semi-carnified, and œdematous; a few pockets of viscid greenish yellow pus in front of right upper lobe. Liver 63 ozs., fatty. Kidneys 10 ozs., granular, cystic.

CHRONIC INTERSTITIAL PNEUMONIA.—235. M., 39. Chronic pleuritis. Lungs large, pigmented, heavy. In both are large masses of fibrous tissue, chiefly central and basal, and more in left than right. The shrinkage of the fibrous tissue has produced considerable puckering, and the surface and edges of the lungs are covered with bladders of emphysema. Bronchi filled with muco-purulent fluid. No recent pneumonia. Heart 15 ozs. Aortic cusps thickened and recurved. Mitral flaps thickened, adherent, and the orifice stenosed. Pericardial surface covered with soft yellow and blood-stained lymph.

GANGRENE.—332. M., 52. In right lower lobe, which is hepatised, red, and friable, are numerous gangrenous cavities of small size. A few areas of consolidation in left lung. Micro-sections show (1) well-marked hyperæmia with extravasation of red corpuscles; (2) irregular distribution of the pneumonic areas; (3) in some the alveoli are chiefly filled with fibrin, in others with large catarrhal cells, and in others with leucocytes; (4) numerous necrosis areas and cavities; (5)

micro-organisms, which are numerous both as to kind and number. About the necrotic areas are (1) masses of cocci with no special arrangement, though sometimes in short chains; (2) a few long chains of cocci different in size and shape from preceding, which are round, the latter being reniform; (3) large bacilli in bundles and scattered irregularly, ends square, much like anthrax; (4) collections of strepto-bacilli, forming skein-like tufts; they are thin and long and apparently contain spores; are very difficult to stain.

335. M., 5. Angular curvature in lower dorsal region. Whole of right lung consolidated from broncho-pneumonia; at its root is cavity size of hen's egg filled with gangrenous debris. The vomica is in connection with necrosis-caries of the bodies of 7th to 12th dorsal vertebræ. The necrosed bones are black and hard. The spinal cord is unaffected. The viscera do not give amyloid reaction with iodine, and there is no naked eye evidence of tubercle.

343. F., $\frac{7}{12}$. Gangrenous cavity, size of a Spanish nut in right lower lobe. No pneumonia. Ante-mortem adherent coagulum in left ventricle. Areas of cortical atrophy on posterior aspect of both kidneys. Bed sores on sacrum and buttocks. Rickets. Pus in middle ears.

369. M., 48. Pigmented fibrosis of right lung; recent pneumonia with gangrenous cavities in all three lobes. Left lung normal.

382. M., 49. Gangrene of left lung after pneumonia. Liver 77 ozs., fatty. Kidneys 18 ozs.; chronic nephritis. Heart 15$\frac{3}{4}$ ozs.; hypertrophy of ventricle; arteries atheromatous.

Diseases of the Digestive System.

Ulcer of Stomach.—372. M., 18. Ulcer of mucosa on anterior surface; size rather less than a threepenny-piece; from the floor projects the end of a small artery. Death from asthenia after profuse hæmorrhage.

389. M., 27. Perforated punched-out ulcer on anterior surface. Peritonitis.

390. M., 27. Small ulcer on anterior surface. Laparotomy was performed for repeated hæmatemesis; death from exhaustion.

310. M., 45. Perforated crateriform ulcer on anterior surface. Peritonitis. Laparotomy.

313. F., 21. Laparotomy for perforated gastric ulcer on anterior surface. Ulcer cut out and wound sutured. Ulcer down to peritoneal coat on posterior surface. Some collections of pus in peritoneal sac.

ULCER OF DUODENUM.—340. M., 48. Stomach large, contains several pints of black slimy fluid. The first part of duodenum is much thickened and indurated from presence of cicatricial tissue; on the surface are several saucer-shaped depressions with well-defined margins, and one sacculation deep enough to admit tip of forefinger. The opened vessel was not discovered. Body and tail of pancreas atrophied; head of fair size. Between tail of pancreas and spleen is a mass of fibrosis to which the left adrenal is attached; this body is hollowed out into a cavity the size of a small hen's egg, and contains thin red-coloured debris; its wall is a mere husk. In the fibrous mass is another cavity filled with thin yellowish brown detritus. The intestinal contents are black and slimy. Was said to have sugar in urine.

3. M., 52. On anterior aspect of first part of duodenum is an oval perforated ulcer $\frac{3}{4}$ by $\frac{1}{4}$ in. The aperture is closed by a knuckle of small intestine which is adherent to duodenum by soft recent lymph. No general peritonitis, though the sac contains about a pint of thin brown fæculent fluid.

APPENDICITIS.—249. M., 13. Perforating appendicitis; peritonitis. Laparotomy. Inflammatory necrosis of portion of right half of diaphragm.

266. F., 20. Perforating appendicitis; peritonitis. Laparotomy.

269. M., 69. Vermiform appendix behind head of colon; ragged perforation about middle. Suppurative peritonitis. Intestines much distended, and numerous small erosion ulcers in gastric mucosa. Laparotomy. Pneumonia and suppurative pleuritis.

275. M., 10. Perforating appendicitis. Peritonitis.

9. M., 7. Perforative appendicitis; peritonitis. Laparotomy. Stump of appendix is open and unligatured. The

peritonitis is limited, owing to adhesions of small intestine to head of colon and adjacent parts.

ULCERATIVE COLITIS.—320. F., 34. With the exception of head of colon and of rectum, the whole of large intestine is severely ulcerated, the process being most severe in the middle half. The gut is not distended. The small intestine is unaffected, and the mesenteric glands are not enlarged. Spleen 3½ ozs. Peritoneum nil. Four years history of frequent defecation with pus in motions.

PERITONITIS.—300. F., 3. Brought in dead; body well nourished. Rigor mortis. Post-mortem lividity of posterior aspect of body; a few livid spots on anterior surface. Lips and finger tips livid; tongue not. Digits of feet and hands in condition of carpopedal contraction. No marks of violence. Anterior fontanelle patent, but no other sign of rickets. Joints nil. Fauces, larynx, lungs, heart nil. Thymus large. In peritoneal sac is about half-an-ounce of thin yellow pus and some lymph, chiefly over liver and spleen. Mesenteric glands of moderate size. Gastro-intestinal tract nil. No hyperæmia or petechiæ of peritoneum or of gastro-intestinal mucosa. Liver and spleen nil. A good few petechiæ in cortex of kidneys. Some puriform fluid in fallopian tubes. Middle ears nil. Brain and membranes nil. In peritoneal exudation are cocci singly, in short chains, but mostly in pairs. No evident capsule.

CANCER OF ŒSOPHAGUS.—240. M., 74. Epitheliomatous ulcer 2 by 1½ ins. just below level of tracheal bifurcation. Kidneys 18½ ozs. Capsules much thickened; numerous abscesses in cortex. Prostate much enlarged, but the bladder wall scarcely, if at all, hypertrophied.

280. M., 66. White soft fungating mass at cardiac end of œsophagus. Has penetrated into right thorax, and in pleural sac there is much turbid fluid and some greenish-yellow lymph. Right lung pneumonic with septic abscesses. Secondary deposits in tongue, in cervical and abdominal lymphatic glands. Urate of soda in big toe joints. Micro-sections of œsophagus and tongue show spindle-shaped cells, *i.e.*, sarcoma.

26. M., 69. Epitheliomatous ulcer involving whole circumference of tube from 3 to 4 ins. long in the middle third of œsophagus. The growth has spread outside, infiltrated the adjacent soft tissues, and invaded the lower end of trachea, inside which it appears as white projecting nodules. Though portions of tracheal mucosa are necrotic, there is no rupture or ulceration. Secondary deposit higher up in œsophagus, size of a Spanish nut.

CANCER OF STOMACH.—7. F., 36. Cancerous infiltration of pyloric portion; the mucosa ulcerated. Stomach 6 ins. long. Dilatation and hypertrophy of lower half of œsophagus. A few infiltrated lymphatic glands. Micro-sections show colloid carcinoma; the colloid degeneration is limited to gastric mucosa, and a few isolated patches between the muscle bundles. The lymphatic glands are infiltrated with large spheroidal or polyhedral cells. Ascites. Laparotomy.

28. F., 52. Stomach of average size. Middle third infiltrated with hard cancerous deposit; gastric surface deeply ulcerated. The cancer has invaded the adjacent soft tissues, and forms altogether a mass as large as a big fist. Heart 8 ozs. Pericardium universally and firmly adherent. Mitral flaps thickened and orifice stenosed, but the endocardium is quite smooth. Death from asthenia.

CANCER OF SIGMOID FLEXURE.—338. F., 50. Cancerous stricture at lower end of sigmoid. Peritonitis. Disseminated cancer of peritoneum. Hydrosalpinx. Sanio-purulent fluid in pleural sacs. Micro-sections show alveolar carcinoma.

CANCER OF LIVER.—397. M., 37. Liver weighs 16 lbs. 3 ozs. (259 ozs.) Typical example of melanotic sarcoma secondary to sarcoma of choroid.

CANCER OF BILE DUCT.—299. M., 77. Liver of about normal size; very flabby; dark olive-green; larger bile ducts dilated and filled with purulent fluid. Gall-bladder, size of hen's egg, is filled with black mulberry calculi. Wall thick and tough; mucosa thick and corrugated. Cystic duct large with thick wall. Bile ducts patent from papilla and dilated. The gall-bladder has nearly ulcerated through at its outer side.

Numerous large tough glands between gall-bladder and gut, but no other secondary deposits. Micro-sections of bile duct show great thickening from fibrosis, with considerable alveolation. A few alveoli are lined by columnar cells. Distributed throughout the fibrosis are numerous large and polynucleated cells of connective tissue type. This sarcomatoid appearance is more marked in the lymphatic glands. I should regard this as a columnar carcinoma becoming sarcomatous.

CIRRHOSIS OF LIVER.—234. M., 63. Liver 37 ozs.; atrophic cirrhosis. Four recent ulcers, none larger than a three-penny piece, in front part of duodenum. Three are covered with fresh clot, and have bled quite recently. Œsophagus nil. Spleen 7 ozs.

381. M., 43. Liver 62 ozs.

385. F., 37. Liver 70 ozs. Spleen 14½ ozs. Chronic peritonitis.

HYDATID OF LIVER.—34. F., 17. Suppurated hydatid cyst, size of orange, in right lobe of liver. Abscess around larynx, with necrosis of laryngeal cartilages (chiefly cricoid). Pneumonia. Mitral valve bestudded with large coarse vegetations. Toxæmic nephritis. For another case of hydatid see myelitis. The patients were respectively niece and aunt. They lived together and were admitted for "septicæmia," the chief symptoms in the one case being those of nephritis, in the other of myelitis.

DISEASES OF THE URINARY SYSTEM.

NEPHRITIS.—226. M., 49. Kidneys 7½ ozs.; dark red, firm; capsule adherent; surface granular; cortex atrophied. Urate of soda in joints of feet and ankles. Heart 21½ ozs.; hypertrophy of both ventricles; thick, coarse, old vegetations on aortic valve; rest of endocardium nil. Lungs emphysematous; œdema of aryepiglottic mucosa. Old fibro-caseous infarct in spleen.

256. M., 39. Kidneys 11½ ozs.; consistence firm; surface fairly smooth; sub-capsular cortex somewhat thin, but interpyramidal, of fair size; colour dark brownish red, but mottled with spots of yellow or buff colour. Heart 15 ozs.; left ventricle

hypertrophied. Joints nil. Micro-sections show parenchymatous nephritis.

353. M., 60. Kidneys 8¾ ozs.; flabby, colour pale buff all over; surface slightly granular; a few small cysts; cortex wasted. Heart 20 ozs.; left ventricle hypertrophied; arteries atheromatous. Joints nil.

363. M., 57. Kidneys 9½ ozs.; colour dark red, surface granular; cortex wasted. Heart 28 ozs.; hypertrophy and dilatation; left ventricle 1⅛ in. thick. No endocarditis. Arteries atheromatous.

376. F., 55. Right kidney 1½ oz., in condition of granular atrophic nephritis. Left, 7 ozs.; a few irregular shaped depressions on surface, but on the whole fairly normal. Heart 27 ozs.; both ventricles much hypertrophied. Arteries very atheromatous. Hæmorrhagic infarcts in lungs. Viscera cardiac.

Cancer of Kidney.—333. M., 50. Left kidney weighs 19—20 ozs. and measures 7 by 4 by 3 ins.; it is quite free. Its lower two-thirds are occupied by a new growth, the lower moiety of which is white and tough, the upper soft and drab. The upper third of kidney is in condition of nephrosis; ureter patent but not dilated. Right kidney 6 ozs.; acute cystitis. Adrenals normal. Secondary deposit in body of 10th dorsal vertebra; invasion of spinal canal and transverse myelitis at this level. The cord is softened for a length of 3 ins.; pus in subarachnoid space. Metastatic deposit in lungs. Micro-sections show appearances akin to those known as proliferating adenoma of kidney. There is little or no evidence of alveolation, but the cells are large and polyhedral. Though these have no resemblance to columnar or squamous epithelial cells the growth must be called a carcinoma.

24. M., 36. Left kidney with adjacent prevertebral glands 27 ozs. Most of the renal tissue is supplanted by a firm white growth, which has spread by continuity to the adjacent soft tissues, prevertebral glands, and bodies of 1st and 2nd lumbar vertebræ. The left adrenal is flattened out by the enlarged kidney. Right kidney 9 ozs.; compensatory hypertrophy. Liver 112 ozs. Numerous and large deposits, especially on middle third. Deposits in lungs. Upper end of right femur is softened from cancerous infiltration. Intracapsular fracture

but no sign of reaction within joint, which looks healthy; probably a post-mortem fracture. Micro-sections show alveolar carcinoma.

CANCER OF BLADDER.—311. M., 33. Cancerous tumour size of the tangerine orange in fundus of bladder; secondary deposits in peritoneum, liver, and lymphatic glands. Calculus, over 3¾ ozs., lies in bladder. Kidneys very large, in condition of parenchymatous and septic nephritis. Pneumonia. Microscopical examination; alveolar carcinoma.

DISEASES OF CONNECTIVE TISSUE.

16. F., 61. Large subperitoneal mass (11 by 7 ins.) lies in upper part of abdominal cavity. It is fixed to spine; over it lie stretched pancreas, left kidney, and descending colon. Section of the tumour shows it to be white soft cancerous mass, the greater part being much degenerated and the site of extensive hæmorrhagic extravasation. The adjacent lymphatic glands are much infiltrated, and there are metastatic deposits in lungs, liver, and body of 2nd lumbar vertebra. The inferior vena cava is distended and blocked with coagulum and cancerous deposit. Microscopical examination; sarcoma.

DISEASES OF THE LYMPHATIC SYSTEM.

30. M., 28. Tumour size of adult head, lies in front and to the right of vertebral column. Above it presses up liver, which is arched over it, and below it reaches as far as sacrum. It is subperitoneal. The mass is apparently composed of cancerous infiltration of lymphatic glands. It is soft almost to diffluence, and there is much extravasation into its substance. Central third of liver occupied by similar neoplasm. No other secondary deposits.

DISEASES OF THE GENERATIVE SYSTEM.

CANCER OF TESTICLE.—400. M., 24. Left testicle size of large orange; weight 18 ozs. Normal tissue entirely supplanted by highly vascular soft spongy growth. The central portion is much degenerated. The growth spreads along spermatic cord into abdomen, where the infected prevertebral

glands form a soft yellowish white mass the size of the fœtal head. Numerous and large metastatic deposits in lungs and liver. These deposits are sometimes white, but more frequently red-purple from presence of numerous vessels. Micro-sections show sarcoma. Only at the edges of the deposits are the cells stainable, at least 95 per cent. being degenerated. The appearances have certain resemblances to deciduoma malignum, *i.e.*, there are plasmodial cells, ordinary giant cells, cells of every size and shape, and large thin-walled blood-vessels.

CANCER OF OVARY.—230. F., 64. Ovaries transformed into soft white grumous mass, in which no trace of normal ovarian tissue was discoverable. Uterus normal. Right fallopian tube thickened from cancerous infiltration. Left dilated and end expanded into thin-walled cyst size of hen's egg. Secondary deposits in omentum, which is much thickened and drawn up, and in outer layers of wall of sigmoid flexure. Microscopical examination. Carcinoma. Large epithelioid cells in columns and in tubules; nuclei large, oval to round; cytoplasm of moderate size. Numerous cell inclusions.

INJURIES, OPERATIONS, AND SURGICAL DISEASES.

HERNIA.—236. M., 73. For strangulated femoral hernia. Peritonitis; gangrene of knuckle of gut; perforation.

246. M., 15 days. Hernia of ileo-colic knuckle into umbilical ring; two surgical openings in exposed knuckle.

301. M., 48. For radical cure of double inguinal hernia. Diffuse suppuration of soft tissues in right flank. In the pus are staphylococcus and a large bacillus with rounded ends. No peritonitis.

337. F., 39. Thirteen feet of small intestine of a dark chocolate colour. Coil of gut has passed through hole in mesentery in ileo-colic angle. Mesentery very taut, partly from the tension arising from the strangulated coil and partly from volvulus. Four large calculi in gall-bladder. Uterus 3·5 ins. Cervical canal dilated. Mucosa of fundus thick; congested. Corpus luteum in left ovary. Micro-sections of uterus show mucosa to be that of the menstrual period. In most places the outer half of mucosa is absent, the edge being

ragged. Near the coruna, however, the mucosa is almost intact; everywhere it shows hyperæmia and some extravasation.

359. M., 2. For radical cure. Much congestion and swelling of testicle and soft tissues about wound. Smear preparations from the juice about cord show cocci in short chains and some large bacilli.

391. F., 44. For strangulated femoral hernia; some gut and part of omentum have been resected. Peritonitis.

IMPACTED GALLSTONE.—291. F., 72. Intestinal obstruction from gallstone weighing 265 grains; removed by operation. Gall-bladder adherent to duodenum, the two being in communication by a hole with a diameter of $\frac{1}{4}$ in. Bile duct from papilla is patent and much dilated. Peritonitis. Pneumonia.

STRICTURE OF SIGMOID FLEXURE.—357. F., 56. Lower end of sigmoid removed for stricture and for recurrent attacks of obstruction. Peritonitis.

EXCISION OF TONGUE.—239. M. 70. For cancer. Urate of soda in joints. Bronchitis; no pneumonia.

252. M., 46. For cancer. Pneumonia.

AMPUTATION OF BREAST.—297. F., 66. For cancer. Much purulent fluid and lymph in left pleural sac. Pneumonia.

OVARIOTOMY.—358. F., 62. Uterine appendages removed and stumps ligatured. Fundal portion of uterus absent. Pelvic cellulitis and peritonitis.

AMPUTATION OF THIGH.—350. M., 20. For synovitis. Hæmorrhagic pleuritis; perisplenitis. Heart 29 ozs.; pericardium much thickened from presence of fibro-caseous masses and universally adherent. Micro-sections of pericardium and of synovial membrane of knee joint show chronic tuberculosis and the presence of tubercle bacilli.

EXCISION OF HEAD OF FEMUR.—364. M., 6. For tuberculous disease. Wound healthy. Lungs studded all over with minute hard pigmented spherules. Micro-sections showed that the spherules are fibrosed quiescent tubercles, the evidence of

an attack of acute tuberculosis. There are some degenerated giant cells, but no tubercle bacilli were found.

LITHOTOMY.—29. M., 40. Prostatic tissue around wound in condition of necrosis. Ureters filled with pus. Numerous and large abscesses in kidneys. Staphylococcus infection.

PROSTATECTOMY.—324. M., 58. Central lobe removed through perinæal incision. Suppurative pelvic cellulitis. Bladder hypertrophied. Remains of prostate large. Numerous phosphatic calculi in bladder. Pneumonia.

OTITIS.—330. M. 9. Suppurative cerebro-spinal meningitis; purulent fluid in ventricles. Necrosis of right petrous bone arising from otitis.

10. M., 9. Left otitis; abscess in left half of cerebellum. Much of the petrous bone has been surgically removed. Left jugular tied; above ligature is clotted up to lateral sinus. Clot suppurating.

31. M., 14. Left otitis; part of mastoid process removed. Thrombosis of superior longitudinal and left lateral sinuses and left jugular vein as far as innominate are clotted. Clot suppurating. No meningitis. Septic pleuritis and septic abscesses in lungs. One small abscess in spleen.

FRACTURE OF SKULL.—334. M., 2. Of base.

23. M., 29. Fracture of occipital bone, with large subdural hæmorrhage.

FRACTURE OF SPINE.—370. M., 39. Fracture of cervical and dorsal vertebræ; of 8 ribs and sternum. Laceration of lung.

FRACTURE OF RIBS.—344. M., 38. Fracture of nine right ribs. Right pleura thickened and universally adherent. Lung consolidated throughout, partly from hyperæmia and extravasation, and partly from old pneumonia. Heart 18 ozs.; left auricle and ventricle hypertrophied; mitral flaps thickened, calcified, and orifice stenosed. Other valves nil.

FRACTURE OF LEG.—241. M., 87. Compound fracture of bones of left leg about lower end of middle third. Septic fluid

in right pleural sac and septic abscess of lung. Heart 12 ozs.; mitral and aortic valves much indurated and calcified. Calculus impacted in cystic duct, and gall-bladder distended. Prostate much enlarged, but almost no hypertrophy of bladder.

261. M., 54. Compound comminuted fracture of bones of both legs. Oblique fracture of right femur into knee joint, and outer condyle broken off. Heart 11 ozs., normal; opened *in situ;* no blood in cavities and almost none in vessels. Arteries in condition of soft atheroma. Stomach contains much undigested food; intestinal and mesenteric lacteals full of chyle.

CONCUSSION OF BRAIN.—298. M., 21. Brain 50 ozs.; much subarachnoid hæmorrhage; some bruising of cortex in left orbital region; some sanious fluid in ventricles; no fracture of skull. Two trephine holes, one over left parietal, the other over left cerebellar region. Liver 58 ozs.; several small ruptures. Spleen 4½ ozs.; several small ruptures. Kidneys 11 ozs.; hæmorrhage into right perinephritic tissue. Circumvallate papillæ of tongue unusually large; tonsils hypertrophied. Cyst size of pigeon's egg, loosely adherent to stomach immediately below diaphragm; contents a watery fluid; sac lined by stumpy columnar and spheroidal cells.

RUPTURE OF LUNG.—345. M, 6. No external marks of traumatism. Right pleural sac contains gas and air, and some 5 or 6 ozs. of fluid blood. The lungs much lacerated about the root, the three lobes being almost separated from their attachment. Green stick fracture of left clavicle. No fracture of ribs, sternum, or of spine. The liver is much depressed, the diaphragm bulging downwards into hypochondrium for about 1½ in. below the costal margin.

SCALD.—272. F., $\frac{10}{12}$. Skin of lower half to two-thirds of back, of buttocks, of flanks, and of upper halves of thigh stiff and yellow like parchment. Skin of inside of right thigh pink and the epidermis raised into blisters. Brain 42 ozs.; convolutions flattened; surface buff coloured; general aspect of brain recalls cerebritis.

HEATSTROKE.—365. M., 62. Brought in dead. Body well nourished. Slight rigor mortis. Lividity of skin of head,

neck, and hands. Internal viscera warm. Skull cap abnormally thin, for the most part $\frac{1}{8}$ in. or less, and nowhere exceeding $\frac{1}{4}$ in. (occipital protuberance). Brain 44 ozs. Dura adherent; subarachnoid œdema; nervous tissue nil. Costal cartilages calcified. Œdema of aryepiglottic mucosa. Lungs somewhat engorged, otherwise normal. Heart 11 ozs., normal. Blood in cavities and blood-vessels is fluid and dark. Much blood in cervical veins. Gastro-intestinal tract normal. About half-a-pint of semi-digested food in stomach. Liver 52 ozs., normal. Spleen $1\frac{1}{2}$ ozs., normal, bar small size, which is an indication of low vitality. Kidneys 9 ozs., firm, red, normal. Adenoma size of Spanish nut in left adrenal. Hydrocele of left tunica vaginalis.

ASPHYXIA.—278. F., $\frac{10}{12}$. Brought in dead. Body well nourished. Rigor mortis. Weight $7\frac{3}{4}$ lbs. No marks of violence. Digits of feet and hands in condition of carpopedal contraction. Lips livid. Lividity of cutaneous surface in places. Brain and membranes normal. Fauces and larynx nil. Lungs subcrepitant, purple, numerous subpleural petechiæ; much engorged. Thymus large, spotted with numerous petechiæ Heart, numerous subepicardial petechiæ; right side flaccid; left side contracted. Blood dark and fluid. Abdominal viscera quite normal.

CUT THROAT.—32. M., 72. Throat cut through thyrohyoid membrane, with division of epiglottis. Lungs œdematous and engorged. Heart adipose. Kidneys granular. Urate of soda in big toe joints. Hard cancerous mass in left side of neck, with numerous and large secondary deposits in liver.

PATHOLOGICAL SPECIMENS RECENTLY ADDED TO THE MUSEUM.

By G. BROOKSBANK JAMES,
Curator of the Museum.

SERIES VIII. — FRACTURES. — HÆMORRHAGE WITHIN THE SKULL CONSEQUENT UPON INJURY.

73A. A horizontal section through the vertex of a skull and enclosed brain of a man who died from cerebral compression, the result of laceration of the middle meningeal artery. On the right side there is a large clot between the dura and the bone. The coronal suture on this side is separated. Part of the bone has been removed to expose the middle meningeal on the opposite side.—Presented by Mr. Stonham.

SERIES IX.—ACUTE OSTEO-MYELITIS. INFLAMMATORY CHANGES IN BONES.

210B. The external half of a right clavicle, which has been divided longitudinally. The medullary cavity and cancellous tissue at the end of the bone is in a condition of acute osteo-myelitis. The periosteum has separated from the bone to a considerable extent, and the latter is bare. A pure culture of the staphylococcus aureus was obtained from the inflamed medulla.—Presented by Mr. Turner.

SERIES XIII.—TUMOURS OF BONE.

Sarcoma.

257A. A section through the lower extremity of the right tibia and the foot. A new growth entirely occupies the position of the os calcis, with the exception of a small portion of this bone behind. The growth extends forwards, and partially implicates the under surface of the astragalus,

scaphoid, and external cuneiform bones. It is white, fibrous-looking, and very firm. Microscopic examination shows that it is a spindle-celled sarcoma.—Presented by Mr. de Santi.

Exostosis.

272A. An unguinal exostosis; third right toe.

SERIES XXI.—DISEASES OF THE TONGUE.

Inflammation and Ulceration.

410A. A tongue, the seat of epithelioma supervening on chronic superficial glossitis. Over the anterior part and tip of the organ are areas of ulceration separated by islands of epithelium, which is white, thickened, and raised. Microscopic examination shows the existence of epithelioma.

Epithelioma.

413A. The right half of a tongue which has been removed for epithelioma. The growth itself forms a round raised mass at the side midway between the tip and base of the organ. The floor of the mouth is not implicated. There is some ulceration on the surface of the growth, but this is not very apparent in the specimen.—Presented by Mr. Stonham.

414A. The anterior portion of the mandible and tongue, with the adjoining floor of the mouth, submaxillary and sublingual glands. A large ulcer with everted margins occupies an area between the jaw and tongue in front. The lymph glands in relation with the submaxillary are secondarily affected. The growth is an epithelioma.—Presented by Mr. Spencer.

SERIES XXVI.—INJURIES AND DISEASES OF THE INTESTINES.

Typhlitis and Perityphlitis.

A vermiform appendix removed by operation from a boy. The appendix is laid open, and contains a fæcal impaction. A small yellow spot is seen on the external surface where perforation had nearly occurred. A minute hole within the

gut can be seen which leads down to this.—Presented by Mr. Spencer.

500A. The last few inches of the ileum, the cæcum, and the vermiform appendix. The last-named organ is of considerable length, and shows a perforation about its middle. During life an abscess cavity existed between the appendix and the ileum, and the glass rod crosses this, and passes through an opening in the latter, which had existed for some time previous to the death of the patient. Operation was refused in the case, and general peritonitis was the cause of death.—Presented by Mr. Turner.

Typhoid Ulceration.

483A. The lower end of the ileum from a case of enteric fever. The solitary follicles are in a state of inflammatory swelling, and in a good many places small sloughs have separated. An ulcerated Peyer's patch is seen below. Behind, a patch from a higher portion of the ileum is shown in an earlier stage.—Presented by Dr. Hall.

SERIES XXIX.—INJURIES AND DISEASES OF THE LIVER.

Carcinoma.

559A. A section through part of the right lobe of a liver which is the seat of sarcomatous growth. Extensive hæmorrhage has occurred into the interior of the deposits, which are secondary to a round-celled sarcoma of the left testicle.—Presented by Dr. Allchin.

SERIES XXXV.—DISEASES OF THE HEART AND PERICARDIUM.—COAGULA IN THE HEART.

635. The left auricle and ventricle of a heart laid open to show a large ante-mortem clot in the interior of the latter. The colour has been retained.

SERIES XXXVIII.—INJURIES AND DISEASES OF THE LUNGS AND PLEURÆ.

New Growths of the Lung.

754A. A section through a right lung the seat of numerous secondary sarcomatous deposits. The growths project from the surface, which is covered with lymph, as spheroidal tumours varying in size from a pea to an egg. On section numerous circular areas are seen, into most of which extensive hæmorrhages have occurred. One deposit, however, retains its white appearance. The growths are secondary to a sarcoma on the left testicle. (See 1020A.)—Presented by Dr. Allchin.

SERIES XLI.—INJURIES AND DISEASES OF THE KIDNEYS.

Cysts.

813A. A kidney, the seat of numerous large and small cysts. The organ itself is greatly increased in size, and there is a large cyst with thickened walls at the upper extremity, and another one of smaller size at the lower; the whole surface is studded with cysts of smaller size, the walls of which are exceedingly thin.—Presented by Mr. Tubby.

Solid Tumours.

816A. A section through a right kidney, the seat of a malignant growth. The latter occupies the lower two-thirds of the organ, and consists of round or irregular-shaped yellowish masses, which are partially encapsuled. Some growth shows evidence of degeneration, and hæmorrhage has taken place into its substance. Microscopically the growth is a carcinoma.

SERIES XLII.—INJURIES AND DISEASES OF THE URINARY BLADDER.

Malignant Tumours.

848A. A left kidney, ureter, and left half of a bladder. The kidney is enlarged, its pelvis dilated, and the organ

itself in a condition of nephritis. The bladder is hypertrophied; in the fundus is a firm white tumour the size of half a small orange, which projects into the vesical cavity, and occupies the posterior moiety of the viscus. A large calculus is situated in the anterior portion, which indents the inferior surface of the growth. The left ureter is markedly dilated. The stone consists of oxalate of lime, uric acid, and phosphates, and weighed $3\frac{3}{4}$ ozs.

History.—Frederick Hall, age 33, admitted into Westminster Hospital April 26th, 1898; died May 5th. On admission patient was shivering, and had difficulty in passing urine; he vomited frequently, and his mental faculties were very clouded. No reliable history of his case could be obtained. The bladder was distended to the umbilicus. Later, he passed alkaline and purulent urine; no blood. He soon became delirious, got gradually worse, and died; no surgical treatment was adopted.—Presented by Mr. Stonham.

SERIES XLIX.—DISEASES OF THE FALLOPIAN TUBES AND BROAD LIGAMENTS.

Hydrosalpinx.

1053A. Uterus and appendages. The fallopian tubes are dilated, especially at their extremities, and were in the recent state filled with pus. Bristles have been passed into them from the cavity of the uterus. The right ovary is represented by the large cyst in the specimen; the left can be seen behind the dilated tube of this side. The uterus shows myomata embedded in its walls.—Presented by Mr. Stonham.

SERIES LII.
INJURIES AND DISEASES INCIDENTAL TO GESTATION AND PARTURITION.

Extra-Uterine Gestation.

1084A. A uterus with the fallopian tubes and ovaries from a case of tubal gestation, which ruptured on the 15th day. The uterus is enlarged, and contains a thick well-developed

decidua. The ovaries show well-marked corpora lutea. A rupture of the left fallopian tube has occurred about an inch from its uterine origin. The oval aperture through which the ovum protruded is well seen. There are several sub-peritoneal myomata and others imbedded in the walls of the uterus.—Presented by Mr. Dawson.

1091A. A uterus, upper part of the vagina, fallopian tubes, ovaries, and rectum, from a case of criminal abortion. Just above the internal os in the recent condition was a wound. Some pigment is seen in this position. The left fallopian tube is dilated, and was filled with pus. Douglass's pouch was obliterated. Acute peritonitis was the cause of death.—Presented by Dr. Hebb.

SERIES LIII.—DISEASES OF THE BREAST.

Carcinoma.

1118A. Section through a breast which is the seat of scirrhous cancer. The growth is situated below the nipple, with the ducts of which it is intimately connected. It is very dense, cupped on the surface, and sends processes into the surrounding fat. There is no sign of degeneration.—Presented by Mr. Spencer.

1119A. Part of a breast with the skin and nipple, which is the seat of scirrhous cancer. The growth is large, nearly circular in shape, and encapsulated. It implicates the nipple, and also an area of skin on one side of the latter. The interior of the mass shows signs of degeneration. The skin where adherent to its surface is on the point of ulceration. An outlying scirrhous nodule has been cut through in the specimen.—Presented by Mr. Spencer.

SERIES LIV.—INJURIES AND DISEASES OF THE CENTRAL NERVOUS SYSTEM AND ITS MEMBRANES.

Tumours of the Spinal Cord.

1159B. A spinal cord, the seat of meningo-myelitis, due to malignant disease of the 10th dorsal vertebra. The dura

mater has been laid open from behind. The vessels of the cord are markedly injected, and a quantity of purulent lymph is situated under the arachnoid. On the anterior surface of the dura mater, at the lower part, is a mass of sarcomatous growth. The substance of the cord itself was much softened at the seat of the disease. The growth was secondary to an "alveolar carcinoma" of the left kidney. (See 816A.)

51. The lower ends of the radius and ulnar, with the adjoining carpus, from a child at birth. No epiphyses have yet appeared in the cartilaginous extremities of the radius and ulnar. The carpus is cartilaginous.—Presented by Mr. James.

ANATOMICAL SERIES.

52. A section through the shafts of the metacarpal bones and phalanges of the middle and ring fingers of a child at birth. The shafts of these bones are ossified, but no secondary centres have appeared as yet in the epiphyses.—Presented by Mr. James.

53. The lower end of the femur and upper end of the tibia of a child at birth. Two centres have recently appeared in the cartilaginous ends of these bones. Their shafts are ossified.—Presented by Mr. James.

54. A longitudinal section through the left leg and foot of a child at birth. The shaft of the tibia is ossified, an epiphysial centre has appeared in the upper end, but the lower is still cartilaginous. The main part of the body of the os calcis has undergone ossification to a considerable extent. The shafts of the metatarsal bones and phalanges are ossified. —Presented by Mr. James.

LIST OF SPECIMENS ILLUSTRATING BACTERIOLOGY.

I. *Staphylococcus Pyogenes Aureus.*—The growth on agar-agar incubated for 24 hours at 37° C., and subsequently allowed to stand at the ordinary temperature of the air until the colour had formed. The growth is bright orange, and resembles a streak of yellow oil paint.

Ia. *Staphylococcus Pyogenes Aureus.*—The growth on potatoe at the ordinary temperature of the air. The orange colour is very apparent.

Ib. *Staphylococcus Pyogenes Aureus.*—The growth on sloped gelatine. Liquefaction has occurred at the surface of the gelatine, and the growth has fallen to the bottom as an orange-coloured mass.

II. *The Staphylococcus Pyogenes Albus.*—The growth on agar-agar. 24 hours' incubation at 37° C.

VI. *The Streptococcus Pyogenes.*—The growth on agar. A collection of small circular discs of semitranslucent appearance, which show a great tendency to remain separate, have appeared along the track of the needle. Three days' incubation at 37° C.

VIa. *The Streptococcus Pyogenes.*—The growth on blood serum incubated at 37° C. for two days.

VII. *The Bacillus Pyocyaneus.*—The growth on agar-agar incubated at 37° C., and the pigment allowed to form. The growth is abundant and red in colour along the track of the needle. A greenish pigment is uniformly diffused through the agar.

VIIa. *The Bacillus Pyocyaneus.*—The growth of this organism on potatoe. It forms an abundant reddish-brown

layer like that of the glanders bacillus, and the potatoe shows a greenish discolouration.

VIIB. *The Bacillus Pyocyaneus.*—The growth in gelatine. This medium has been liquefied, and shows a turbid deposit. The pigment is diffused through the gelatine.

X. *The Bacillus Tuberculosis* (Koch, 1882).—The growth on glycerine agar at the ordinary temperature for several weeks. It forms a dull whitish scaly-looking layer of considerable consistence.

XI. *The Bacillus Mallei* (Löffler and Schutz, 1882).—The growth on agar. This appears along the track of the needle as a uniform streak of greyish white colour, and somewhat transparent appearance, with moist-looking surface. Incubated at 37° C. for 24 hours.

XIA. *The Bacillus Mallei* (Löffler and Schutz, 1882).—The growth on potatoe incubated at 37° C. for about seven days. It has acquired a light chocolate colour, but a few days before this was clear yellow, like honey.

XV. *Bacillus Anthracis* (Koch, 1876; Pollender, 1849; Davaine, 1863).—The growth is thick-felted in appearance, and white in colour. The edges show a wreathed appearance. 24 hours' incubation at 37° C. on blood serum.

XVI. *Bacillus of Typhoid Fever* (Eberth, 1880).—The growth on agar. It consists of a bluish grey film, with regular margins, and which can easily be removed from the surface of the medium.

XVIA. *Bacillus of Typhoid Fever* (Eberth, 1880).—The growth on potatoe, after a few days at the ordinary temperature. The surface of the potatoe appears wet if looked at obliquely. This appearance is highly characteristic.

XVIB. *Bacillus of Typhoid Fever* (Eberth, 1880).—The growth in milk, showing that it does not induce coagulation of this medium.

XVIC. *Bacillus of Typhoid Fever* (Eberth, 1880).—The growth in a stab culture of sugar agar. No fermentation has taken place attended with the formation of bubbles.

XVID. *Bacillus of Typhoid Fever* (Eberth, 1880).—A shake culture in gelatine; no bubbles of gas have been formed.

XVII. *Bacillus Coli Communis* (Escherich, 1885).—The growth on potatoe 48 hours. It appears as a distinct brown pellicle; the surface is dull. This contrasts markedly with the growth of typhoid on this medium.

XVIIB. *Bacillus Coli Communis* (Escherich, 1885).—The growth in milk, showing the coagulation produced in this medium through the influence of the organism.

XVIIC. *Bacillus Coli Communis* (Escherich, 1885).—The growth in sugar agar. Stab culture. Fermentation has taken place, attended with the formation of bubbles.

XVIID. *Bacillus Coli Communis* (Escherich, 1885).—A shake culture in gelatine, which has been allowed to solidify. Bubbles of a gas (methane) have formed, producing little splits in the gelatine.

XVIII. *Bacillus Diphtheriæ* (Klebs-Löffler, 1883 and 1884).—The growth on blood serum incubated at 37° for 24 hours. Continuous layer of dull whitish colour; the margins show single colonies completely or partly separated. The growth is peculiar in appearing with greater rapidity than that of most other organisms.

XVIIIA. *Bacillus Diphtheriæ* (Klebs-Löffler, 1883 and 1884).—The growth in gelatine puncture culture. A row of spots are seen along the track of the needle. A small disc has formed on the surface. There is no liquefaction of the medium.

XIX. *Bacillus Tetani* (Kitasato, 1889).—The growth in sugar beef-broth in a Buchner's tube. There is a slight turbidity in the medium, and a thin powdery layer has formed on the sides of the tube.

XX. *Bacillus Œdematis Maligni* (Pasteur and Koch).—The growth in a tube of sugar agar incubated at 37° C. It appears as a broad white line, with lateral projections. The medium is cracked above and below through the evolution of gas. The smell on removing the cap is characteristic.

XXA. *Bacillus Œdematis Maligni* (Pasteur and Koch).—A stab culture in sugar gelatine. The growth appears as a white line with lateral processes. Liquefaction of the medium has begun to take place.

XXI. *Spirillum Choleræ* (Koch, 1883).—The growth on agar at 37° C., 24 hours. A semi-transparent greyish white layer; no special characters.

XXIA. *The Growth on Blood Serum.*—Liquefaction of this medium has occurred to some extent. This is characteristic.

XXIIB. *Bacillus of Bubonic Plague* (Kitasato and Yersin, 1894).—The growth on agar-agar. It forms a continuous line of whitish somewhat transparent appearance, and shining surface. Incubated at 37° C., 24 hours.

UNITED SPORTS CLUB.

The history of the United Sports Club during the past two years reminds us of the phœnix of old, which always arose fresher and stronger from its ashes. When the writer joined the Medical School some three years ago, everything was at a standstill. The Club was short of money; the Football Club had practically ceased to exist, only playing two matches during the season; the Cricket Club had quite given up all hope of winning matches, and the Swimming Club existed only in name. Now things are different. The Rugby Football and Cricket Clubs are in a flourishing condition, and there is a fair credit balance in hand to go forward into the coming year. It was found necessary to cease holding the Annual Athletic Meeting owing to lack of funds. Now that there is some money in hand we are looking forward to a good meeting this year, as we have some runners amongst us, notably the brothers Coltart, both of whom obtained two "seconds" at the United Hospitals' Athletic Meeting last year.

The Swimming Club has been restarted. During the past year we sent a team to compete for the United Hospitals Swimming Cup. In accordance with our usual fate, we drew to swim against "St. Mary's," who eventually won the cup. Still the race was so close that we feel confident that had we been drawn against another Hospital we should at least have survived the first round.

It is the Rugby Football Club which has met with the greatest success. Last season we played regularly every week, and won a majority of our matches, defeating such prominent clubs as "Brighton" and "Wasps."

This season we have so far played fifteen matches, having won seven, drawn three, and lost five. Among the vanquished are teams such as "The Honourable Artillery Company," "The Royal School of Mines," &c. We believe that the standard of the clubs which we have played against this *year has* been very much higher than that of those played

against in previous years. We have suffered much loss owing to the serious illness of Mr. Guy Coltart, our last year's captain, who plays a splendid wing three-quarter game. We offer him our sincere congratulations on his recovery.

In the matter of the football cup ties our usual bad fortune in being drawn against the strongest hospitals in the first round has again followed us. Last season we were drawn to play against "St. Thomas," the holders of the Cup, and this year against "Barts." in the first round. Though beaten on both occasions, we were not disgraced.

The Cricket has been very much improved this year, owing to our having been able to obtain a pitch to practice on at Balham. Nine matches were played last summer, three of which were won, two drawn, and four lost.

Though things have improved very much, they are still far from perfect. We are without a ground on which we can play matches of any sort. With the exception of the cricket practice pitch above mentioned, we cannot get any practice during the week at athletics, which is a very serious handicap indeed. If the awakened vigour of the club is to continue, it is absolutely essential that this should be remedied.

I see by the Report of two years ago that the School of Medicine Committee were then "considering" the question of making the subscription to the United Sports' Club compulsory on all students when they join the school, adding it to the composition fee. I believe that they are still "considering" it. Surely it is a pity to let the matter drag on in this way.

There is a class of men who seem to look upon all Hospital Societies and Clubs as a nuisance. I am glad to say that their numbers are few at Westminster, and we wish that they were fewer still. It is such men who damp all enthusiasm and *esprit de corps;* and were the £2 2s. included in the entrance fee, there is no doubt that we should suffer less from such gentlemen.

Though there is a small balance in hand this year, the Club is urgently in need of funds. We have only been able to get this balance by foregoing athletic sports for two years, and by numerous other economies.

We have much to thank the staff for, as they have so often helped us in difficulties.

We have especially to thank Mr. Tubby, our President, and Dr. Gossage, our Treasurer, for the time and trouble they have expended over the affairs of the Club.

If all will unite together and do their best for the Clubs we think that the outlook for athletics at Westminster is better than it has been for many years.

WM. PAYNE,
Hon. Secretary.

1*st March*, 1899.

GUTHRIE SOCIETY, 1896—7.

The Session was inaugurated by the usual Smoking Concert, which was well attended and thoroughly successful. At this meeting eleven new members were elected.

November 26*th.*—Mr. Tubby gave a very graphic account of climbing experiences in the Alps; the lecture was illustrated by excellent lantern slides.

December 17*th.*—The second Sturges Lecture was delivered by Dr. Potter. His subject was, "The Doctor as portrayed by Charles Dickens."

January 21*st.*—At this meeting Mr. Macnamara gave his "Personal Recollections of a Medical Career in India." Of this excellent paper a full account appeared in the last volume of the Hospital Reports.

February 11*th.*—"A Trip from Madeira to the Sandwich Islands" was the theme of a most amusing and interesting paper by Mr. J. G. Scott.

March 11*th.*—Mr. Paton read a paper upon "Some Swellings of the Umbilicus"; it was listened to with great interest and attention, and was the subject of some general discussion.

June 10*th.*—A very successful Clinical evening was held, at which the following cases were shown: Spina bifida, A peculiar case of erythema associated with gangrene of the finger, Congenital syphilitic disease of bone, and Lupus, by Mr. Bond; Pseudo-hypertrophic muscular paralysis, Double congenital dislocation of the hip joint, Congenital absence of forearm, Severe scoliosis, Lymphadenoma, and Tabes dorsalis, by Mr. Wilson; Exophthalmic goître and Ataxic paraplegia, by Mr. Ereaut; Spastic paraplegia, by Mr. Betts, senior; Adiposity, by Mr. Gray.

July 15*th.*—General Meeting of the Society, at which the

Secretary's report was read: the customary election of officers followed.

OFFICERS, 1896—7.

President ...	...	... Mr. Spencer.
Vice-President	...	... Dr. Tims.
Hon. Treasurer	...	... Mr. Cade.
,, *Librarian*	...	... Mr. Cheeseman.
,, *Secretaries*	...	Mr. G. L. Parsons. Mr. F. F. Bond.

Committee.

Mr. Cheeseman	Mr. Betts.
,, Barlow	,, Gray.
,, Watson	,, E. A. Parsons.

1897—98.

The Society bore some little reproach because of the tendency of recent sessions to rely for papers upon members of the staff rather than upon the students themselves; an effort was made, therefore, in this session to change all that, and it is noticeable that with the exception of the Sturges Lecture all the papers were read by students.

Only four new members were elected.

The opening Concert on October 14th was particularly successful: the honours of the evening being shared by Mr. Frölich and Mr. Taylor.

The third Sturges Lecture was delivered in November by Mr. Cowell, and embodied an account of his visit to the International Medical Congress at Moscow as the representative of Westminster Hospital.

In December Mr. Mills read a very useful paper on "Recent Advances in the Science of Medicine."

At the January meeting Mr. Sherlock endeavoured to provoke discussion by an admirable paper on the "Cant of Education," which displayed sound thought, wide sympathies, and comprehensive reading.

In February a paper was read by Mr. Carling entitled, "A

Man of Genius," an account of the times, task, and personality of Paracelsus.

Mr. Dawson's paper in March threw an interesting light on the early history of New Zealand and its people.

On May 12th, Mr. G. L. Parsons discussed "Discontent, some Causes and some Beneficial Effects;" the "time" of the paper was essentially "the present day," and the matter therefore peculiarly piquant and fresh.

At the Clinical evening in June, the following cases were shown: Old fractures of both patellæ, Mr. Evans; Functional paraplegia, Mr. Gray; Pityriasis rubra, Mr. Nitch-Smith; Paralysis agitans, Mr. Hood; Talipes calcaneus, Mr. Paton; Chancre of tonsil, Mr. Evans; Exophthalmic goître, Mr. Gray.

At the General Meeting in July, it was mentioned that the Committee had been obliged by lack of funds to suspend the subscription to Lewis Library. A sub-committee for concerts and entertainments was formed. It was decided to make the member's subscription £1 1s., payable on election.

The number of Vice-Presidents was increased to three, of the Committee to nine.

OFFICERS.

President ...	... Dr. Pollock.
Vice-President ...	... Mr. H. H. Mills.
Hon. Treasurer	... Mr. E. C. Ryall.
,, *Librarian*	... Mr. E. A. Parsons.
,, *Secretaries*	Mr. F. F. Bond. Mr. R. N. Watson.

Committee.

Mr. Gray	Mr. Dawson.
,, Betts	,, Bailey.
,, Parsons	,, Carling.

WESTMINSTER HOSPITAL AND SCHOOL.

THIS Hospital owes its origin to a meeting which was held at St. Dunstan's Coffee House, on the 14th January, 1715, and first opened its doors at a small house in Birdcage Walk, under the name of the "Publick Infirmary for the Sick and Needy." At this time the only hospitals which existed for the medical and surgical relief of the sick poor were St. Bartholomew's and St. Thomas's, which were both established and carried on by the religious houses of their respective neighbourhoods, and created Royal Hospitals soon after the suppression of the monasteries in 1537.

Westminster Hospital is remarkable as being the first in London which was founded by the voluntary contributions of the public. Guy's Hospital, founded by one individual, was not established until a few years later. After nearly five years' work in Birdcage Walk, the infirmary was converted into a hospital, situate in Petty France, and having accommodation for 30 in-patients. So rapidly did its usefulness develop, that in 1724, having been in existence for little more than 9 years, it opened its wards in Chapel Street with 60 beds. At this time, Cheselden, the teacher of John Hunter, became one of its surgeons; a post which he held for 15 years. Another 9 years passed, and in 1733 the hospital was removed to a still larger building in James Street, where it remained for 101 years. This removal, however, did not take place without a strong protest on the part of a large body of the Governors, who preferred a house near Hyde Park Corner, called Lanesborough House, to which they finally seceded with a portion of the staff, and established the present St. George's Hospital.

In 1834 the patients were removed into the present building, and a Medical School was established in Westminster in the same year; but it was not until 1849 that the School became connected with the Hospital.

Alterations and improvements, including a Chapel and an

extensive Out-Patient Department, have largely added to the resources and efficiency of the Hospital, which at present contains upwards of 200 beds, including accommodation for special classes of disease. The old Chapel has been converted into a ward for children.

There are separate departments for diseases of the eye, of the ear, of the skin, of the teeth, of the throat and nose, for those peculiar to women, and for orthopædic practice.

In 1884 a site containing 5,900 square feet was purchased in Caxton Street, close to the Westminster Town Hall, and in October of the same year the Governors of the Hospital accepted a contract for £8,168 for the erection of school buildings from plans drawn up by Mr. Stephen Salter, F.R.I.B.A. The foundation-stone was laid by His Grace the Duke of Westminster on February 28th, 1885, and the building was opened on October 1st in the same year.

Communications respecting the Medical School should be addressed to the Dean, Medical School, Caxton Street, S.W., from whom all particulars may be obtained on application, either personally or by letter. Information may also be obtained at any time from the Secretary of the Medical School, from the Secretary of the Hospital, or from any of the Lecturers.

The Dean will be pleased to give aid to parents and guardians in the selection of places of residence for students.

FEES FOR GENERAL STUDENTS.

A.—The Composition Fees for the entire course of Hospital Practice and Lectures required for the Membership of the Royal College of Surgeons of England, and for the Licences of the Royal College of Physicians, and of the Society of Apothecaries of London, may be paid in one of three ways.

1. In *one* payment on Entrance, 100 Guineas. 2. In *two* payments of 55 Guineas each, on Entrance and at the commencement of the Second Winter Session respectively. 3. In *six* payments, at the commencement of each of the first Six Sessions, 25 Guineas each Winter Session and 15 Guineas each Summer Session. In the case of Students, other than holders of Scholarships, not requiring all the subjects of the

first examination of the Conjoint Board, special deduction will be made on application to the Treasurer.

B.—Members of the Universities of Oxford, Cambridge, Durham, and others, who have completed one year of Medical Study at an University or other Medical School, and desire to enter for the Hospital Practice and Lectures required by those Universities, and by the Colleges of Physicians and Surgeons, may pay their Fees in one of three ways, viz.:—

1. In *one* payment of 75 Guineas on Entrance. 2. In *two* payments of 40 Guineas each, at the commencement of the First and Second Sessions of attendance. 3. In *three* payments of 30 Guineas each, at the commencement of the First, Second, and Third Sessions respectively.

C.—Students who have passed their first M.B. Examination, or who have completed their Anatomical and Physiological studies, and desire to enter for the full period of Hospital Practice and the Lectures on the practical subjects only, may pay their Fees in one of two ways, viz.:—

1. In *one* payment of 50 Guineas, on Entrance. 2. In *two* payments of 30 Guineas each, at the commencement of their First and Second Sessions.

These Fees entitle the Student to an Out-Patient and In-Patient Dressership and Clerkship in rotation, and to the use of the Library.

British, Colonial, and Foreign qualified Practitioners may be admitted to the Hospital Practice and Lectures, with a view to receiving a Certificate of Attendance for Examination purposes, on payment of a fee of £12 12s.

UNIVERSITY OF LONDON EXAMINATIONS.

A University Calendar will be found in the Library.

Special Classes for Students preparing for the Preliminary Scientific and Intermediate (M.B.) Examinations of the University of London.

Classes will be held in the subjects of the Preliminary Scientific (M.B.) Examination. The total fees for these will be 24 Guineas, half of which will be allowed on entering as a general Student. Students are urged to commence in

October for the July (Honours) Examination. Special arrangements are made for that in January. Dr. Tims will begin a Class in Advanced Zoology and Botany for the B.Sc. in October.

Special Classes for the Intermediate M.B., and for the First F.R.C.S. Examinations will be held at times to be arranged. For these an extra fee of 16 Guineas will be charged for the former and 10 Guineas for the latter.

Any of the above Classes are open to other than Students of the School, on conditions to be learned on application to the Dean.

FEES FOR DENTAL STUDENTS.

The Fees for the *general* Surgical Practice and Lectures required for the Dental Diploma of the Royal College of Surgeons may be paid in one of two ways, viz.:—

1. In *one* payment on Entrance, £50. 2. In *two* payments of £27 10s. each, to be made at the Commencement of each Academical year. These payments include the Library fee. A Scholarship, value £20, is offered annually for competition to commencing Dental Students.

Students who become general Dental Students, as above, may enter for the special practice and lectures at the Dental Hospital of London, in Leicester Square, within easy reach of the Hospital, or at the National Dental Hospital, Great Portland Street, for the study of Practical Dentistry. Lectures are delivered on Metallurgy, Dental Mechanics, Dental Surgery and Pathology, and Dental Anatomy and Physiology. The courses required for the Dental License of the College of Surgeons are one course of Metallurgy, and two of each of the other three; the fee for which, including Dental practice, is 30 Guineas at the former Hospital, and 24 Guineas at the latter.

REGULATIONS CONCERNING THE SCHOLARSHIPS AND PRIZES.

1. The successful Candidates must be or will be required to become full general students of the Westminster Hospital

School of Medicine. The holders of the Oxford and Cambridge Scholarship are required to become Full Students from the beginning of their second or third year.

2. No Scholarship will be awarded unless sufficient merit be shown in the Examinations.

3. The holder of one Entrance Scholarship is not eligible to compete for any other Entrance Scholarship.

4. Candidates for the Scholarships must be under 25 years of age.

SCHOLARSHIPS AND PRIZES.

I.—**An Entrance Scholarship**—which is designated the "**Guthrie**"—of the value of Sixty pounds, the composition fee being reduced by this amount, will be offered for competition in each year to gentlemen who have entered, or are about to enter, as First Year's Students, at the Westminster Hospital Medical School in the Winter Session. The subjects of the Examination, which will be by written papers, are Latin, Mathematics, Experimental Physics, and Chemistry, and either Greek, French, or German.

II.—**An Entrance Scholarship** of the value of Forty Pounds, and also one of the value of Thirty Pounds, the composition fee being reduced by these amounts respectively, will be annually offered for competition to gentlemen who have entered, or are about to enter, as First Year's Students at the Westminster Hospital Medical School in the Winter Session. The subjects of the Examinations are the same as above.

III.—**Two Colonial Scholarships**—one of the value of Sixty Pounds, and one of the value of Forty Pounds—will also be offered for competition prior to the commencement of the Winter Session. The subjects of the Examination are the same as above, provided there be competition. Should there be no competition, the Matriculation of the University of London, or a Colonial degree will be regarded as a sufficient qualification.

IV.—**An Entrance Scholarship,** of the value of Twenty Pounds, the fees payable being reduced by this amount, will be annually offered for competition to gentlemen who have entered, or are about to enter, as First Year's **Dental Students** at the Westminster Hospital Medical School in the Winter Session. The subjects of the Examinations are the same as above.

V.—**A Free Presentation,** open to Pupils of the Epsom Medical College.

VI.—**An Oxford and Cambridge Scholarship** of the value of Forty Pounds, the fees payable being reduced by this amount, will be offered for competition in each year to members of the University of Oxford or Cambridge, who are about to join the Westminster Hospital Medical School in the Winter Session. The subjects are Anatomy and Physiology, including Histology.

VII.—**Two Natural Science Scholarships**, of the value of £60 and £40 respectively, will be offered for competition prior to the commencement of the Winter Session. The subjects and the conditions of the Examination are the same as for the similar Scholarships offered at the commencement of the Summer Session.

VIII.—**A Natural Science Entrance Scholarship,** of the value of Sixty Pounds, the composition fee being reduced by this amount, will be offered for competition in each year at the beginning of the Summer Session, to gentlemen who have entered, or are about to enter, as First Year's Students at the Westminster Hospital Medical School. The subjects of the examination, and the minimum standard of excellence required, will be the same as those of the Preliminary Scientific Examination of the University of London.

IX.—**An Entrance Scholarship—The "Governors'"**—of the value of Forty Pounds, the composition fee being reduced by this amount, will be offered for competition in each year to gentlemen who are about to enter as First Year's Students at the Westminster Hospital Medical School in the Summer Session. The subjects of the Examination are Chemistry

(Inorganic and Organic) and Experimental Physics according to the synopsis of the Conjoint Examining Board, which can be obtained at the Examination Hall, Victoria Embankment.

X.—**Two Arts Scholarships,** of the value of Fifty Pounds each, the composition fee being reduced by this amount, will be offered for competition in each year to gentlemen who are about to enter as First Year's Students at the Westminster Hospital Medical School in the Summer Session. The subjects of the Examination will be the same as for the "Guthrie" Scholarship.

XI.—**Two Colonial Scholarships in Arts,** of the value of £60 and £40 respectively, will also be offered for competition prior to the commencement of the Summer Session, under the same conditions as those for the similar Scholarships offered in the Winter Session.

XII.—**An Oxford and Cambridge Scholarship,** of the value of Forty Pounds, will be offered for competition at the commencement of the Summer Session, under the same conditions as those for the similar Scholarship offered in the Winter Session.

XIII.—**The Treasurers' Prize,** an Exhibition, of the value of Ten Guineas, for general proficiency in Anatomy, Physiology or Biology, and Chemistry, given by the Treasurers of the Hospital and the Treasurer of the Medical School, for competition amongst First Year's men.

XIV.—**The President's Prize,** of the value of Twenty Guineas, a Scholarship in Anatomy, Physiology, and Histology, given by His Grace the Duke of Westminster, President of the Hospital, to be competed for by Students of the Second Year.

The Examinations for XIII. and XIV. will be held both at Christmas and at the end of the Winter Session.

XV.—**The Sturges Prize in Clinical Medicine.**—The proceeds of the residue of the sum subscribed in memory of the late Dr. Sturges will be added to the sum of Five Pounds.

Candidates will be required to send in written reports on Six Cases selected by the Physicians from among the patients

under their care. The Cases shall be selected as opportunity arises from immediately after Easter, and the Reports must be sent in by the 30th June. There will also be an Oral Examination.

XVI.—**The Clinical Surgery Prize,** value Five Pounds.

Candidates must send in, *on or before* the 30th of March, written reports with comments of not less than Six, and not more than Twelve, Surgical Cases, taken in the Wards of the Hospital during the preceding twelve months. The cases reported on must be those the Candidate has had allotted to him whilst acting as Clinical Clerk or Dresser. In May the candidates must be prepared to write a Commentary on such case or cases as may be selected by the Physicians or Surgeons, and be examined also at the bedside, and in the Post-mortem Room.

Prizes XV. and XVI., consisting of Books or Instruments, may be competed for after the completion of the Fourth Winter Session by Students who have entered for the full period of Hospital Practice.

XVII.—**The Frederick Bird Medal and Prize,** of the value of Fourteen Pounds, will be offered for competition to Students after the completion of their Fourth Winter Session at the Westminster Hospital School of Medicine. The Examination will be by written papers, and *vivâ voce* (if the examiners so determine), in the following subjects:—Obstetric Medicine, including Midwifery and Diseases of Women and New-born Children, and one paper in Medicine and Pathology.

XVIII.—**The Chadwick Prize.**—In 1862 the late Mrs. Chadwick endowed the School with the interest of £700 Consols, in memory of her deceased husband, James Chadwick, Esq., a Governor of the Hospital. This Prize, of the value of Twenty Guineas in Books or Instruments, is offered for competition at the end of each Winter Session, and may be awarded to the most meritorious Student (or Students) of *any* year not exceeding the fifth, provided that such Student has been fully entered to the Lectures and Hospital Practice of this Hospital, that his attendance and general conduct have been in every respect satisfactory, and that, at the time

of competing, no qualification has been obtained from any of the Licensing bodies. The examination will be by written papers in Medicine and Surgery, including Pathology, applied Anatomy, and Physiology.

Students who intend to compete for the Frederick Bird and Chadwick Prizes must send in their names to the Dean on or before March 1st.

XIX.—**The Fish Prize.**—This Prize, of the value of £20, given by Mrs. Charles Fish, in memory of her deceased husband, Charles Fish, Esq., a Governor of the Hospital, will be awarded to the Student who exhibits the greatest proficiency in Pathology. A Candidate must have been fully entered to the Lectures and Hospital Practice of this Hospital, his attendance and general conduct in every respect must have been satisfactory, and he must not have obtained any qualification to practice. The Examination, which will take place at the end of the Summer Session, will be by written papers in Pathology, and *vivâ voce* Examinations in the Post-mortem Room, on the Museum Specimens and on Microscopic Specimens, including the methods of their preparation.

A week's notice of intention to compete must be sent to the Dean.

XX.—**Class Prizes and Certificates.**—The Examinations in Medicine and Surgery are held at the end of the Winter Session on the subjects both of the General and also of the Special Lectures.

The Examinations in Midwifery, Forensic Medicine, Histology, Biology, Practical Pharmacy, Practical Chemistry, and Physics, are held at the end of the Summer Session. A regular attendance as well as a satisfactory Standard of Merit in the Examination are the necessary qualifications.

Besides the above Prizes, all the Resident Medical Appointments are open to the Students without additional fee.

The Public Distribution of Prizes takes place annually at the commencement of the Summer Session.

HOSPITAL PRACTICE.

THE IN-PATIENTS are seen by the Physicians and Surgeons daily, when Clinical instruction is given in the

Wards, and also by means of lectures and examinations upon the cases.

CLINICAL LECTURES are given weekly in the Clinical Lecture Room at the Hospital, before or after the visit, by the Physicians and Surgeons, according to the following table:—

Dr. ALLCHIN, Dr. HALL, Dr. MURRELL } In rotation: On Wednesdays, during the Winter and Summer Sessions.
Mr. BOND, on Fridays, in May, June, July.
Mr. STONHAM, on Tuesdays, in October, November, December.
Mr. SPENCER, on Thursdays, in January, February, March.
Dr. POTTER, on Fridays, throughout the year.

A special notice is posted before each Lecture.

THE OUT-PATIENTS are seen daily at 1.30 p.m. by the Assistant Physicians and the Assistant Surgeons. Students are required to attend in the Out-Patient Department before entering on duties in the wards.

OBSTETRIC DEPARTMENT.—The Obstetric Physician, Dr. Potter, attends on Tuesdays and Fridays, at 2 p.m., to see In-Patients affected with diseases peculiar to Women.

The Assistant Obstetric Physician, Dr. Pollock, sees the Out-Patients of this Department on Mondays and Fridays, at 1.30 p.m. Pupils, when properly qualified, attend cases of Lying-in patients under his superintendence.

OPHTHALMIC DEPARTMENT.—Patients suffering from Injuries and Diseases of the Eye are seen by Mr. Hartridge on Tuesdays and Fridays, at 9.30 a.m. Cases requiring operation are admitted into the beds especially allotted for this purpose.

SKIN DEPARTMENT.—Patients suffering from Diseases of the Skin are seen by Dr. Colcott Fox, on Wednesdays, at 1.30 o'clock; and severe cases are admitted to beds allotted for the purpose.

AURAL DEPARTMENT.—Patients suffering from Deafness and Diseases of the Ear are seen by Mr. de Santi, on Tuesdays, at 1.30 p.m.

THROAT DEPARTMENT.—Patients suffering from Diseases of the Throat and Nose are seen by Mr. Spencer, on Mondays and Thursdays, at 1.30 p.m.

ORTHOPÆDIC DEPARTMENT.—Patients suffering from Deformities of the Spine and Limbs are seen by Mr. Tubby on Fridays, at 3.30 p.m.

DENTAL DEPARTMENT.—The Dental Cases are seen by Mr. Glassington, on Wednesdays and Saturdays, at 9.15 a.m.; and by Mr. Gardner, on Tuesdays and Thursdays, at 9.30 a.m.

POST-MORTEM EXAMINATIONS are performed by the Pathologist at 2 o'clock, as opportunities occur. Demonstrations of Morbid Anatomy are given on these occasions in accordance with the Regulations of the Conjoint Board, attendance upon which is now compulsory.

HOSPITAL APPOINTMENTS.

The following Officers of the Hospital are appointed by the House Committee, on the recommendation of the Physicians and Surgeons. In the event of the qualifications of the Candidates being equal, preference will be given to those gentlemen who have been educated at the Westminster Hospital Medical School.

A PATHOLOGIST, with a Salary of Fifty Pounds, and a CURATOR OF THE MUSEUM and a MEDICAL AND SURGICAL REGISTRAR, each with a Salary of Forty Pounds.—These Officers are appointed annually in March, but are eligible for re-election.

TWO HOUSE PHYSICIANS, TWO HOUSE SURGEONS, TWO ASSISTANT HOUSE SURGEONS, AND A RESIDENT OBSTETRIC ASSISTANT.—These Officers are appointed for six months, and are provided with rooms and commons in the Hospital, except the Assistant House Surgeons, who are provided with commons only. Candidates are required to produce certificates of having acted for four months each as Out and In-Patients' Clinical Clerk for the office of House Physician, and Out and In-Patients' Dresser for the office of House Surgeon, as well as a certificate of proficiency in the administration of Anæsthetics. The House Physicians and Resident Obstetric Assistant

will be selected after examination in Medicine and Midwifery respectively. For the office of House Surgeon there will be an examination in Surgery every three months. The selected Candidate will serve for six months as Assistant House Surgeon, at the end of which he will, if approved, be appointed House Surgeon for a further six months. The dates for the commencement of Office are February 1st, May 1st, August 1st, and November 1st.

CLINICAL ASSISTANTS to the Assistant Physicians and Assistant Surgeons, and ASSISTANTS to the Officers in charge of the Special Departments, may be appointed, on the approval of the House Committee of the Hospital, from amongst qualified Students, to assist in the work of the Departments.

CLERKS AND DRESSERS AND MIDWIFERY ATTENDANTS.—These offices are open to all general Students of the Hospital, nominated by the School of Medicine Committee, on the recommendation of the Dean, and appointed by the Hospital Board; and no Student shall be considered as having attended the full period of Hospital Practice unless he have satisfactorily performed the duties of Clinical Clerk and Dresser.

Every Student shall consecutively serve the offices of Out-Patients' Dresser and Clerk for a period of four months, and those of In-patients' Dresser and Clinical Clerk for a period of four months, commencing January 1st, May 1st, and September 1st.

Two Pathological Clerks are appointed every four months, to assist in the Post-mortem Room, and to work under the direction of the Pathologist.

No student is eligible for any of these appointments until he has passed the second Examination of the Conjoint Board, or an equivalent Examination, and in no case shall a Student be permitted to hold two In-Patient offices at the same time.

Clerks and Dressers in the Special Departments of Hospital Practice are periodically appointed.

So far as vacancies permit, Students of other Hospitals are admitted to In-Patients' Dresserships or Clerkships.

The Wards are open to Students from 10 a.m. until noon,

and from 1.30 to 5 p.m. daily. The In-Patients' Clerks and Dressers are required to commence their duties at 10 a.m., and to sign their names and hour of arrival in a book kept in the Secretary's office. Students who have passed the Second Examination of the Conjoint Board, or its equivalent, are encouraged to accompany the House Physicians and House Surgeons in their morning visits.

MUSEUMS.

The Anatomical portion of the Museum contains dissected Preparations of all the principal tissues and organs of the Body, and a series of Models in Wax, which are used to illustrate the Anatomical and Physiological Lectures, and the Student's reading.

The Pathological Museum is furnished with Specimens illustrating all the principal Morbid Conditions of the Body, and the Injuries to which it is liable. A collection of casts give the external appearances presented by the specimens prior to dissection. Constant additions are being made to this department by the selection of Pathological specimens from the Post-mortem Room. A descriptive catalogue of the Pathological Specimens prepared by Mr. C. Stonham, with additions by the Curator, can be obtained of the Secretary of the School, price five shillings.

Obstetric preparations and specimens of Comparative Anatomy are used to illustrate the lectures on those subjects.

The Materia Medica Museum contains a complete collection of the Drugs and Chemicals of the British Pharmacopœia in addition to many others, some of which are of considerable rarity. There is also a duplicate set of Drugs and Chemicals for the use of Students preparing for Examination, together with a large collection of Botanical Specimens.

LIBRARY.

The Library is open daily from 10 to 5 (Saturday 10 to 2) *for purposes of study*, and a Librarian is in attendance, to supply the books for perusal, and to maintain order.

It is under the management of a Committee, appointed by the School of Medicine Committee, consisting of the Dean and two Lecturers, and two Students who have completed not less than two years of study at the Westminster Hospital School of Medicine, nominated by the Students.

The Entrance Fee of One Guinea is included in the general fees. Students who have entered for one or two Sessions may secure the same privileges by paying a fee of half-a-guinea.

GUTHRIE SOCIETY.

Meetings of this Society, for Debates, the reading and discussion of papers of Professional and General interest, the exhibition of Physiological and Pathological specimens, &c., are held on the second Thursday of each month, at 8.30 p.m. in the Board Room of the Hospital.

At least two Clinical evenings are held each year.

Members have the use of the microscopes and specimens belonging to the Society.

The Society subscribes to Lewis's Library for 23 Volumes for the use of Members.

Subscription, Life Members, £1 1s. in one payment on entrance, or five consecutive annual payments of 5s.

UNITED SPORTS' CLUB.

This Club—consisting of the Athletic, Football, Cricket, and Swimming Clubs, united in their management, and governed by a Committee consisting of Members of the School or Hospital Staff as well as Students—which was founded under its present conditions in 1893, is open to all Students of the School and Hospital.

The Entrance Fee, entitling a Student to Membership during his entire curriculum, is £2 2s.; and all new Students are strongly recommended to become Members at time of entering.

HOSPITAL STAFF.

Consulting Surgical Staff.

MR. HOLTHOUSE. MR. RICHARD DAVY. MR. COWELL.
MR. MACNAMARA.

Medical In-patient Staff.

DR. ALLCHIN. DR. DE HAVILLAND HALL. DR. MURRELL.

Surgical In-patient Staff.

MR. T. BOND. MR. STONHAM. MR. SPENCER.

Medical Out-patient Staff.

DR. HEBB. DR. WILLS. DR. GOSSAGE. DR. PURVES STEWARD.

Surgical Out-patient Staff.

MR. TUBBY. MR. DE SANTI. MR. TURNER.

Ophthalmic Surgeon—MR. HARTRIDGE.
Obstetric Physician—DR. POTTER.
Assistant Obstetric Physician—DR. W. RIVERS POLLOCK.
Physician for Diseases of the Skin—DR. COLCOTT FOX.
Consulting Dental Surgeon—DR. WALKER.
Dental Surgeons—MR. GLASSINGTON. MR. GARDNER.
Surgeon in charge of Throat Department—MR. SPENCER.
Surgeon in charge of the Orthopædic Department—MR. TUBBY.
Surgeon in charge of the Ear Department—MR. DE SANTI.
Administrators of Anæsthetics—DR. BOURNS. MR. MACLEOD.
Curator.—MR JAMES.
Medical Registrar— DR. ABRAHAMS
Surgical Registrar—MR. PATON.
Secretary—MR. S. M. QUENNELL.

LECTURERS.

Clinical Medicine—DR. ALLCHIN, DR. HALL, DR. MURRELL.
Clinical Surgery—MR. BOND, MR. STONHAM, MR. SPENCER.
Clinical Gynæcology—DR. POTTER.
Medicine—DR. DE HAVILLAND HALL and DR. MURRELL.
Diseases of the Skin—DR. COLCOTT FOX.
Neurology and Insanity—DR. CHARLES MERCIER.
Elementary Practical Medicine—DR. WILLS.
Surgery—MR. STONHAM.
Ophthalmic Surgery—MR. HARTRIDGE.
Surgery of the Throat and Nose—MR. SPENCER.
Orthopædic Surgery—MR. TUBBY.
Aural Surgery—MR. DE SANTI.
Dental Surgery—MR. GLASSINGTON.
Anæsthetics—DR. BOURNS.
Operative Surgery—MR. STONHAM.
Minor Surgery—MR. DE SANTI.
Surgical Pathology—MR. PATON.
Midwifery and Diseases of Women—DR. POTTER.
Materia Medica, Therapeutics, and Pharmacology—DR. PURVES STEWART.
Demonstrator of Practical Pharmacy—MR. A. E. TANNER.
Forensic Medicine—DR. HEBB and DR. POLLOCK.
Toxicology—MR. H. WILSON HAKE.
Public Health—DR. S. MONCKTON COPEMAN.
Bacteriology—DR. BLAXALL.
Anatomy—MR. BLACK.
Demonstrators of Practical Anatomy—MR. BLACK, DR. MARETT TIMS, MR. TURNER, and MR. CANNY RYALL.
Physiology—DR. GOSSAGE.
Histology—DR. GOSSAGE.
Biology and Comparative Anatomy—DR. MARETT TIMS.
Chemistry—Dr. H. W. HAKE.
Practical Chemistry—Dr. H. WILSON HAKE.
Physics—MR. H. SOMERVILLE.

Treasurer of the School—DR. POTTER.
Dean of the School—MR. TUBBY.
Sub-Dean—DR. GOSSAGE.
Secretary and Librarian—MR. W. FRYER.

PAST STUDENTS OF THE WESTMINSTER HOSPITAL.

LONDON.

ALDRICH, ARTHUR WORLEDGE, 9, Manor Road, Leyton, N.E.
ALLEN, DAVID JOHN. 15, Sheffield Terrace, Campden Hill, Kensington, W.
AMBROSE, A. P., 1, Abbeville Road, Clapham Park, S.W.
AMBROSE, G. P., 1, Abbeville Road, Clapham Park, S.W.
ATKINSON, JOHN LANCELOT, 112, Fernhead Road, Paddington, W.
AUSTEN, ALFRED WALTER, 30, Moreton Street, St. George's Square, S.W.
AYRES, CHARLES JAMES, 55A, Welbeck Street, Cavendish Square, W.
BARKER, ALFRED JAMES, 20, Beaulieu Villas, Finsbury Park, N.
BARLOW, H. C., Westminster Hospital.
BARNES, J. J. FREDERIC.
BATE, GEORGE PADDOCK, 2, King Edward's Road, Hackney, and 412, Bethnal Green Road.
BEADLES, ARTHUR, Park House, 35, Sunderland Road, Forest Hill, S.E.
BELL, WALTER WHITMARSH, 42, Helix Road, Brixton Hill. S.W.
BETTS, LEONARD BOWRING, 83, The Chase, Clapham Common, S.W.
BOND, FRANK FOURACRE, Westminster Hospital.
BRACKENBURY, HENRY BRITTEN, 155, Stapleton Hall Road, Stroud Green, N.
BROOKES, ROBERT CHARLES, 137, Westminster Bridge Road, S.E.
BUDD-BUDD, EDWARD J., 27, Alderbrook Road, Balham, S.W.
CALDWELL, R. A., 21, Henrietta Street, Cavendish Square, W.
CATO, A. M., 199. Stanstead Road. Forest Hill, S.E.
CATO, CHAS. STANLEY, Bellevue, Anerley Park, S.E.
CATTERALL, CUTHBERT GEORGE, Dispensary, Rochester Row, S.W.
CLARK, TOM, 1. Westbourne Street, Eaton Square.
CLAY, F. E., 15, Acre Lane, Brixton, S.W.
COLES, JOHN WM., 197 and 199, Camberwell New Road, S.E.
COPELAND, F., 34, Gateley Road, Stockwell, S.W.
CREIGHTON, E., Tankerville House, Greyhound Lane, Streatham Common, S.W.
CRONIN, EUGENE FRANCIS, Old Manor House, Clapham Common, S.W.
CROPP, E. L., 23, Sainfoin Road, Balham. S.W.
CULLINAN, E., 331, King Street, Hammersmith, W.
DAWSON, ERNEST R., 4, Grange Park Road, Leyton, N.E.
DAVIDSON, FREDK. MONTGOMERIE DAVONPORT, 4, Streathbourne Road, Balham, S.W.
DE BRENT, MORTIMER JOHN, 17, Victoria Road, Clapham Common, S.W.
DENNE, FRANCIS VINCENT, 72, Blythe Road, West Kensington, W.
DEWSNAP, WILLIAM, 38, Shaftesbury Road, Hammersmith, W.
DOWN, GEORGE, 6, Ellison Terrace, Streatham Common, S.W.
EREAUT, HAROLD JOHN, Westminster Hospital.
FLEMING, W., 18, Denington Rd., Hampstead, N.W.
FOOTE, V. P.
FORSBROOK, WM. HY. RUSSELL, 139, Buckingham Palace Road, S.W.
FORSTER, HERMANN JULIUS, Malvinas, Brockley View, Forest Hill, S.E.
FOSTER, WILLIAM J., 25, Wickham Road, Brockley, S.E.
FOULDS, FRANCIS H., 57, Haydon Park Road, Wimbledon, S.W.
FOX, JOSEPH FRANCIS, M.P., 95, Warwick Street, S.W.
GANDY, WILLIAM, "The Hill Top," Central Hill, Upper Norwood, S.E.
GILLSON, WILLIAM ED., 34, Huntingdon Street, Barnsbury, N.
GLASSINGTON, CHARLES WM., 6, Pelham Crescent, South Kensington, S.W.
GODWIN, WILLIAM HENRY FRED. FENN, 89, Asylum Road, Peckham. S.E.
GOODSON, WILLIAM, Buckston Villas, 58 and 60, Leytonstone Road, Maryland Point, Stratford, E.
GOSSAGE, ALFRED MILNE, 54, Upper Berkeley Street, Portman Square, W.
GOSSAGE, WILLIAM HERBERT, 54, Upper Berkeley Street, Portman Square, W.
GREENE, HY. BERTRAM BLODWELL, Stoneleigh, Earlsfield Road, Wandsworth, S.W.
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HAGUE, JOHN LOCKE, Northern Fever Hospital, Winchmore Hill, N.
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HOOK, W., 124, Landor Road, Clapham, S.W.
HORRIDGE, ALBERT C.
HUGHES, THOMAS C., North Western Hospital, Haverstock Hill, N.W.
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JACKMAN, CHARLES HOWARD, 11, Stoke Newington Road, and 37, Victoria Road, Stoke Newington, N.
JACQUES, E., Fir Grove, Buxton Road, S.W. (retired).
JAMES, GEO., Brooksbank, 1, Carlisle Mansions, Victoria Street.
JAQUET, JOHN LEWIS, Stones End House, Southwark, S.E.
JOHNSON, JOHN JAMES.
KEMPSTER, FELIX CHARLES, Oak House, 59, Bridge Road, Battersea, S.W.
KEMPSTER, C. R., 1, Queen Anne Terrace, Albert Road, Battersea Park, S.W.
KEMPSTER. WM. HY., 1, Albert Road, Battersea, and Chesterfield, North Side, Clapham Common, S.W.
LARDER, HERBERT, Whitechapel Infirmary, Vallance Road, N.E.

LECKIE, WALTER JAMES, Grosvenor Club, New Bond Street, W. (retired).
LEVY, OSCAR LUDWIG, 2, Vernon Place, Bloomsbury Square, W.C.
MACDONOGH, AUGUSTUS WM. (travelling).
MACLEOD, CHARLES E. A., 2, Pembroke Crescent, Bayswater, W.
MACLEOD, R.A., Westminster Hospital.
MCKINLAY, J. R., 198, Camberwell New Road, S.E.
MARCH, JOHN, Woodlawn, Spencer Park, New Wandsworth, S.W.
MARIN, FERDINAND B., 38, Rosoman Street, E.C.
MILLS, HERBERT HY., 21, St. Mary Abbot's Terrace, Kensington, W.
MOORE, GEORGE LENNOX, 6, Hertford Street, Mayfair, W
MOREY, JAS. W., 26, Walpole St., King's Rd., S.W.
MORGAN, HERBERT LAURENCE, 17, Harleyford Road, Vauxhall, S.E.
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NOWELL, GEORGE HAROLD, Clarendon House, Mortlake, S.W.
OAKMAN, JOSEPH JOHN, The Priory, High Street, Battersea, S.W.
OSBORN, ED. COLLET, Kensington Infirmary, S.W.
PAGET, A. J. M., 167, High Road, Balham, S.W.
PALMER, FREDERICK STEPHEN, Compton Lodge, East Sheen, S.W.
PARKHOUSE, H., 86, Carlton Vale, Kilburn, N.W.
PART, J. SHEPLEY, 20, Ashchurch Park Villas, Goldhawk Road, W.
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PEARSE, FRANCIS JAMES, 75, Warwick Sq., S.W.
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PRIDMORE, CAMPBELL WM., 116, Jamaica Rd., S.E.
PRITCHARD, EDWARD JOSIAH, "Branksome," Wandsworth Common, S.W.
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RADMORE, G. R.
RIX, FRANCIS WM., 62, Holmdale Road, West Hampstead.
ROBINSON, E. W., Victoria Lodge, Brookfield Road, South Hackney, N.E.
RUDD, ARTHUR, 493, Old Kent Road, S.E.
RYALL, CHARLES, 51, Queen Anne Street, Cavendish Square, W.
RYALL, EDWARD CANNY, 114, Harley Street, W.
SCOTT, H. T., 17, Crondace Road, Fulham, S.W.
SILAS, W. B., Westminster Hospital.
SIMSON, FRANCIS TAYLOR, Craven House, Northumberland Avenue, W.C.
SMITH, NEWMAN.
SPICER, FREDERICK, 14, Carleton Road, Tufnell Park, N. (retired).
SPITTA, EDMUND JOHNSON, Ivy House, Clapham Common, S.W.
STONHAM, HY. A., 30, Albert Square, Ratcliff, E.
SYERS, H. W., 40, Wimpole Street, W.
TAPSON, JOSEPH ALFRED, Holmwood, The Grove, Wandsworth, S.W.
TILY, JAMES, 8, Brackley Road, High Road, Chiswick, Middlesex.
TIPPETT, S. G., 2, Queen Anne's Grove, Bedford Park, W.
TWEMLOW, W. A. F., 45, Avenue Rd., Acton, W.
WATTS, H. E., Eppingdale, Leytonstone, Stratford, E.
WATTS, ALGERNON NEWBEGIN, 37 & 39, Essex Chambers, Essex Street, Strand, W.C.
WILLS, WM. ALFRED, 29, Lower Seymour Street, Portman Square, W.
WILSON, GEORGE, Rutland Villas, Romford Road, Forest Gate, E.
WILSON, F. K., Branch Seamen's Hospital, Albert and Victoria Dock, E.
WILSON, F. W.
WISE, CHARLES H., Dunheved, Walthamstow.
WRIGHT, JOHN SIDNEY ALBERT, 153, Upper Kennington Lane, S.E.
YEARSLEY, PERCIVAL M., 33, Weymouth Street, Harley Street, W.

PROVINCIAL, SCOTLAND, AND IRELAND.

ADAMS, THOMAS RUTHERFORD, 171, St. James' Road, East Croydon.
ARCHER, ROBERT KENDRAY, St. John's, West Worthing, Sussex.
ASHENDEN, CHARLES, Hill View, Berlin Road, Clive Vale, Hastings.
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BAILEY, THOMAS W., Belgrave Place, St. Mary Cray, Kent.
BALE, WILLIAM, 130, Hampden Place, Wellington Road North, Stockport.
BAMPTON, AUGUSTUS H., M.D., Brookfield, Wells Road, Ilkeley-in-Wharfedale, Yorks.
BARRETT, WM. A. H.
BARRON, HENRY THOMPSON, 12, Crockerton Road, Upper Tooting.
BARTON, JAS. E., Surrey Co. Asylum, Brookwood.
BATTERHAM, JOHN WILLIAMS, Bank House, Grand Parade, St. Leonard's-on-Sea.
BAXTER, JAMES FLEMING, Sebdon Castle, Craven Arms, Salop.
BEADLES, FERDINAND, Broadway, Worcestershire.
BLOMFIELD, S. B., Hurst Green, Sussex.
BOWMAN, ROBERT MOORE, 8, Park Street, Ripon, Yorkshire.
BOX, WM. HY., Churchill, Somerset.
BRYSON, L. HORNER, Melbourne House, Osmaston Road, Derby.
BURT, CYRIL CECIL BARROW, Snitterfield, Stratford-on-Avon.
BYLES, JOHN BRUZEVILLE, Addenbrooke's Hospital, Cambridge.
CADE, H. M., Langworth, Lincoln.
CANE, HOWARD, The Gables, Belvedere, Kent.
CARR, ALEXANDER, Placerville, 150, Wells Road, Bristol.
CAUDWELL, EBER, Harleston, Norfolk.
CHARSLEY, ROBERT STEPHEN, "The Barn," Slough, Bucks.

CHURCHILL, A. L. M., Co. Asylum, Lancaster.
CLARKE, RICHARD, Warbleton, Hawkhurst, Sussex.
COLEMAN, ALFRED THOMAS, 51, Highfield Street, Leicester.
COLLIER, ALFRED HY., Stansfield House, Cranford, Hounslow, Middlesex.
COLMER, CORNELIUS AGRIPPA, 6, Frederick Place, Weymouth.
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COOP, E., Glenwood, Church Road, Moseley, Birmingham.
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COTTON, HY. HUGH POWELL, Vicarage Cottage, Westerham, Kent.
COX, EDWARD OWEN, Langlands, Cleobury Mortimer, Salop.
CUTHBERT, WILLIAM HAWKINS, Aberdovey, North Wales.
DAKEYNE, THOMAS EDWARD, Stockwell Street, Leek, Staffordshire.
DAVIDSON, CHRISTOPHER MONTGOMERIE.
DAVIES, JOHN, Tanyfron Villa, Aberayron, Cardiganshire.
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DURANCE, WILLIAM A., "Blackburn," Stanley Street, Bedford.
EAGER, THOMAS CAWLEY, "Abingdon," Crosslanes, Woking, Surrey.
EASTE, WILLIAM ALFRED, Hanslope, Bucks.
EDDOWES, CHARLES, Maddington, Devizes, Wilts.
EMMERSON, WM. LINDSEY, Ruding Villa, The Fosse, Leicester.
EVANS, A. H., 2, Gnoll Park, Neath, South Wales.
FARRANT, C., North Street House, Taunton.
FARRANT, MARK, Beaufort House, St. Thomas, Exeter.
FERGUSON, DANIEL WM.
FINCH, H. J., Crofton, Sudbury, Suffolk.
FORD, JAMES, Rillside, Exmouth, Devon.
FORSAYETH, J. R. M.
FOSBROKE, GEORGE HAYNES, Rose Place, near Worcester.
FRANKS, C., Waterloo House, North Collingham, Newark, Notts.
FREMLIN, HEAVER STUART, Mereworth, nr. Maidstone, Kent.
FRY, J. M., 18, Station-road, Chapeltown, near Sheffield.
GARMAN, JOHN CORNELIUS, Pleydells, Warbleton, Hawkhurst, Sussex.
GARRETT, CHARLES DUDLEY, 37, Huddersfield Road, Dewsbury, Yorks.
GENGE, G. F. S., Rogate Lodge, Bournemouth.
GOSS, TREGENNA BIDDULPH, 1, The Circus, Bath.
GRACE, WM. GILBERT, Thrissell House, Stapleton Road, Bristol.
GRAY, HERBERT EDWD., 19, Beaumont Street, Oxford.
GREENWOOD, THOS. FRED., 21, Linton Road, Hastings.
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GRIFFITHS, WILLIAM ARTHUR H., Micheldever, Hants.
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HALPIN, RICHARD FREDERICK, 15, Ferry Bank, Arklow, Co. Wicklow.
HANCOCK, G. C., 24, Harmer Street, Gravesend.
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HARPER, HY. CECIL, Stowmarket, Suffolk.
HARPER, THOMAS EDWARD, Holloway Sanatorium, St. Ann's Heath, Virginia Water.
HARRIS, GEORGE JAMES, Anstey, Leicester.
HARRIS, JOHN CHAS., Waddon Road, Croydon, Surrey.
HARRIS, SPENCER CLABON, St. Mary's Street, Ely, Cambridge.
HARRISON, ARTHUR WM., Stonley House, Mossley, nr. Manchester.
HARVEY, CHRISTOPHER, Fleet Surgeon (retired), Park View, Green Lane, Eltham, Kent.
HAYWARD, THOMAS ERNEST, Haydock, St. Helen's, Lancashire.
HEELAS, WALTER WHEELER, 2, Clifton Terrace, Wolverhampton.
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HUNT, ARTHUR HY. WM., Melford Lodge, Tettenhall Road, Wolverhampton.
HUXLEY, FRANK EARLE, 23, Waterloo Street, Birmingham.
HYATT, JAMES TAYLOR, Shepton Mallet and Evercreech, Somerset.
HYDE, GEO. EDWIN, 39, Forgate Street, Worcester.
KENNARD, DAVID, Lambourne, Berks.
KENNARD, D. G., Park Cottage, Shrivenham, Berks.
KENNARD, THOMAS ATHERTON, Bowmore House, Tarporley, Cheshire.
KING, F. R., Somerset and Bath Asylum, Cotford, near Taunton.
KING, JOHN CHARLES, Montsorrel, Barry, Glamorgan.
LAKE, JOHN WM., Kentmere, Canterbury Road, Margate.
LAMBERT, ERNEST CHARLES, 36, St. Saviour's Road, West Croydon.
LAMBERT, FREDERICK SAMUEL, Balgowan, Newland, Lincoln.
LAWTON, HENRY HERBERT ALFRED, 98, High Street, Poole, Dorset.
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LEGGE, WILLIAM HENEAGE, Ringmer, nr. Lewes.
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LITTLE, FRED., Aylsham, Norwich.
LITTLEHALES, A. G., Clovelly, Bexley Heath.
LIVERMORE, WM. BARCLAY, Cleckheaton, Yorks.
LONG, ARTHUR, 1, Priory Road, Dover.
LONG, J. R., 1, Priory Road, Dover.
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LONG, HY. PLATER, The Firs, Crowborough, Sussex.
LOVEGROVE, ARTHUR C., North View, Ripon, Yorks.
LOWNDS, C. J., Ivanhoe Lodge, Conisborough, near Rotherham, Yorks.
LOWNDS, HENRY ARTHUR, 46, Hallgate, Doncaster.
MACCABE, SIR FRANCIS XAVIER FREDK., Park Cottage, Kilgobbin, Co. Dublin.
MACDONOGH, WM. FRED., Twickenham, Middlesex.
MANDER, PERCY ROBT., Dartmoor Convict Prison, Princetown, Devon.
MATTHEWS, JOHN COX, Fitzwilliam Hall, Cambridge.
MATTHEWS, SIDNEY PHILIP, Crawley, Sussex.
MAY, THOMAS, Fewcott House, Bicester, Oxon.
MEGGS, THEODORE HUGH E., "Pinwell," Slough, Bucks.
MILLER, HENRY, Hartland, Bideford, Devonshire.

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Moore, Walter, Stourport, Worcestershire.
Morgan, Fred., Uffculme, Devon.
Morris, H.
Morton, Richard John, Aylsham, Norfolk.
Mowat, George, St. Albans (retired).
Munyard, Thomas Guillaume, Coombe Bury House, Kingston Hill, Surrey.
Nelson, Joseph, Clare House, Baker Street, Hull.
Nicholls, Frederick, 159, High Street, Croydon, Surrey.
Norman, George, Alpha House, Cheltenham.
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Orford, Robt. Jas., Market Bosworth, Hinckley, Leicester.
Ormsby, George Hy., St. John's House, Cleckheaton, Yorks.
Pain, Tertius D'Oyley, The Limes, Bembridge, Isle of Wight.
Pallett, Thomas Edward, Earl's Colne, Halstead, Essex.
Peacock, Albert Louis, 1, Portland Street, Lincoln.
Philipps, Sutherland Rees, St. Ann's Heath, Virginia Water, Surrey, and Hove Villa, Brighton.
Pickthall, J. M., Rosteague, Portscatho, Cornwall.
Piper, Wm. Opie, 15, Albert Road, Colne.
Plant, J. R., Hampton-in-Arden, Warwickshire.
Prankerd, H. P., 1, Carlton Road, Southampton.
Price, Arthur, Merriebank, Moss Lane, Aintree, Liverpool.
Quicke, Thos. Joseph, 18, Charlotte Street, Hull.
Quicke, William Jenkins, 6, Comrie-Crescent, St. Thomas, Exeter.
Ricketts, Charles, 11, Hamilton Square, Birkenhead.
Riley, Francis, Pen-y-bryn, Hereford.
Roberts, A. D., 49, Newland, Lincoln.
Ryall, William Phayre, Carbery, Salcombe, Kingsbridge, S. Devon.
Sanderson, Marwood, Loftus-in-Cleveland, Brotton, 57, Lorne Terrace, Southbank, and Grange Town, Eston, Yorks.
Sanderson, Robert, 98, Montpelier Road, Brighton.
Sanderson, E. S.
Shaw, George, 1, The Drive, W. Brighton.
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Smith, William Thomas, Kirkheaton, Huddersfield.
Staple, Jas. Dibble, Clevedon Villa, Cheltenham Road, Bristol.
Stilwell, Reginald John, Moorcroft, Hillingdon, Uxbridge.
Sutherland, Wm., Mirlaw House, Capheaton, Newcastle-on-Tyne.
Swain, Edward, Three Counties Asylum, Hitchin, Herts.
Swain, James, 4, Victoria Square, Clifton, Bristol.
Taylor, Fred. Ryott Percival, Darenth Asylum, Kent.
Templeton, Percy, Suffolk House, Pirbright, Surrey.
Trend, Theophilus Wm., 1, Grosvenor Square, Southampton.
Vines, Chas. Stuart, Bridge Street, Newport, Monmouthshire.
Vise, Arthur Blithe, Abbott's Manor House, Holbeach, Lincolnshire.
Vise, J. N. B., Holbeach, Lincolnshire.
Wallis, Albert Wm., Brentwood, Essex.
Wallis, Ferdinand, 28, Acomb Street, Manchester.
Wardle, Mark Anthony, 17, Castle Square, Bishop Auckland.
Warrener, Robert, Morborne, Peterborough.
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Wearne, Walter, Helston, Cornwall.
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Wilder, Rev. Hy., Beaufoy, Sulham Rectory, Reading
Wilding, James, Apsley Villas, Freemantle Road, Bristol.
Winckworth, C. T., 11, Old Steyne, Brighton.
Winckworth, Wadham Bruce, Taunton, Somerset.
Witham, Henry, Kirton, near Boston, Lincs.
Wolseley-Lewis, Herbert, Assistant Medical Officer, The Asylum, Claybury, Woodford Bridge, Essex.
Yates, William, Mytton House, 7, Richmond Green, Richmond.

NAVAL, MILITARY, AND INDIAN MEDICAL SERVICES.

Axford, Walter Godfrey, Surgeon R.N.
Baker, Geo. Lowbridge, Surgeon R.N. (retired), La Chasse, Green Street, St. Heliers, Jersey.
Bell, Arthur Sydney Gordon, Surgeon R.N.
Bell, Geo. Alexander Stuart, Surgeon R.N.
Browning, George Dansey, Capt., R.A.M.C.
Caldwell, Robert, Capt., R.A.M.C.
Campbell, Jno. Alex. Langford, Surgeon R.N., Meadow Cottage, Horndean, Hants.
Carroll, Edward Richard Wm. Chas., Major, I.M.S., Bengal.
Davies, Arthur Mercer, Major, R.A.M.C.
Dowse, Hy. Esmond, Capt., R.A.M.C.
Elliott, Horace, Staff Surgeon R.N.
Green, Hy. Wm. Gordon, Surgeon R.N.
Gubbin, Geo. Frederick, Major, R.A.M.C.
Harvey, T., Staff-Surgeon R.N. (retired).
Hensman, Frank Hy., Lieut.-Col., R.A.M.C.
James, Leo E., Surgeon, R.N.
MacLeod, Evan Cameron, Capt., I.M.S., Bengal.
Macnamara, Eric Danvers, Surgeon R.N.
Macnamara, Hugh Winckworth, Staff-Surgeon R.N.
Morgan, Fred. James, Capt., R.A.M.C.
Mumby, Langton Philip, Major, R.A.M.C.
Pratt, James John, Major, I.M.S., Bengal.
Quicke, Wm. Hy., Major, I.M.S., Bombay.
Robertson, Sir George S., K.C.S.I., Lieut.-Col., I.M.S., Bengal.
Scanlan, Arthur de Courcy, Major, R.A.M.C.
Sharman, Eric H., Capt., I.M.S., Madras.
Swainson, Jas. Middleton Graham, Surgeon, R.N.
Trewman, Geo. Turner, Major, R.A.M.C.
Walsh, John Henry T., Major, I.M.S., Bengal.

PRACTITIONERS RESIDENT ABROAD.

ALLWORK, FRANK R., Riverton, South Australia.
BULL, STANLEY A., Coromandel, Auckland, New Zealand.
BUTLER, GILBERT EDWD., Stowell, Hobart. Tasmania.
BUTLER, GAMALIEL H., 52, Macquarie Street, Hobart, Tasmania.
CHAMBERS, M. W., Sydney, New South Wales.
CHEESMAN, H. H., Coromandel, Auckland, New Zealand.
COOPER, HUGH ERSKINE, Sydney, New South Wales.
COURTEEN, RAYMOND.
DAWSON, F. W. E., Auckland, New Zealand.
DE RENZI, H. CARTER CASTRIOT, Christchurch, New Zealand.
DICKINSON, JAMES, Bridgetown, Blackwood, Western Australia.
DOUGLAS, JAS., Frankton, Otago. New Zealand.
DOWLER, H. M., Telipara Tea Estate, Gairkhata P.O., Dooars, India.
DOYLE, E. ANGEL-GAYNES, Port of Spain, Trinidad, West Indies.
DRYDEN, D.D., Fairlie, Timaru. Canterbury, New Zealand.
ELIOT, GEORGE, Grenfell, Canada.
FOX, STEPHEN CHAS. GUNDRY, Perak, Straits Settlement.
GIRDLER, GEO. TOUSSAINT, Kyber Pass, Auckland, New Zealand.
HART, HERBERT W., Cathcart, Cape Colony.
HEBBERT, C. A., c/o. C. Baylor, 7, Water Street, Boston, Mass., U.S.A.
HUGHES, EDWARD LUCAS, Southern Cross, W. Australia.
JAMES, D. P., Wellington. New Zealand.
JERMAN, A. E., Uganda, East Africa.
LAYNG, HY., Swatow, China.
MACDONOUGH, BERNARD, Coraki, N.S. Wales.
MCILROY, JOHN BLACK, Annandale, Sydney, N.S. Wales.
MORETON, F., Warrnambool, Victoria. Australia.
RILEY, A., Winton, Southland, New Zealand.
SCOTT, J. G., c/o. H. Hempell, Esq., Funchal, Madeira.
SMYTH. SYDNEY, Rouxville, Orange Free State, S. Africa.
TOWNE, H. R. F., Lady Grey, Aliwal North, Cape Colony, S. Africa.
VERTANNES, C. A., 4. Halpin Road, Rangoon.
WALKER, S. R., Uganda, East Africa.
WHITE, A. T., Uganda, East Africa.
WILLIS, FRANCIS, Ashville, North Carolina, U.S.A.
WILSON, THOMAS, Wagin, West Australia.
WITHAM, E. W., Tinsukia, Luckimpore, Assam.

LICENTIATES IN DENTAL SURGERY.

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GARDNER, E., 139, Victoria Street, S.W.
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GLASSINGTON, C. W., 6, Pelham Crescent, South Kensington.
GLASSINGTON, JOHN HENRY, 26, Wellesley Road, Croydon.
HEADDEY, HERVEY PARRY, 33 y 35, Alcala, Madrid.
HUXLEY, F. E., 23, Waterloo Street, Birmingham.
PATTINSON, CHARLES AUGUSTINE, 32, St. Augustine Villas, Archway Road, Highgate.
STOCKEN, ARTHUR PERCY, 21, Endsleigh Gardens, London, N.W.
TAYLOR, H. W., Fitzclarence House, Kent Road, Southsea.
TAYLOR, W. A., Oare Hermitage, Newbury.

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